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INTERNATIONAL UNION OF AMERICAN REPUBLICS

BULLETIN

OF THE INTERNATIONAL BUREAU OF THE

AMERICAN REPUBLICS

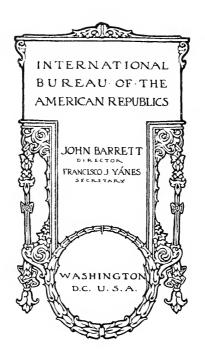
OCTOBER

1908



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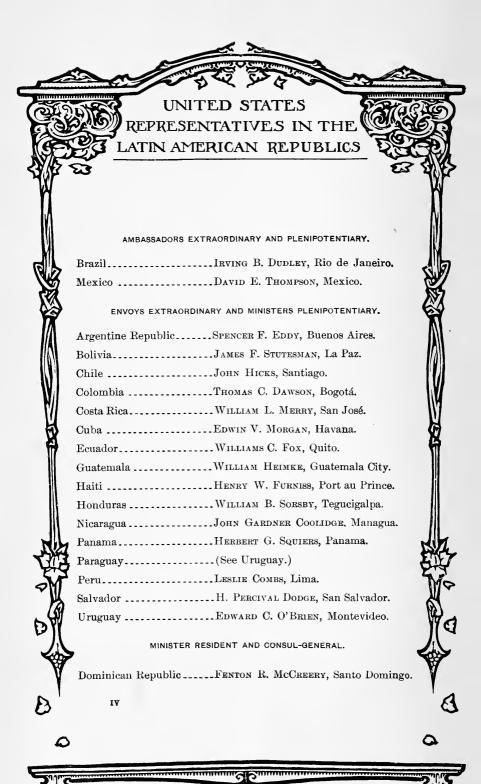
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a Absent.





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DR. JOSE FIGUEROA ALCORTA, PRESIDENT OF THE ARGENTINE REPUBLIC.



Vol. XXVII.

OCTOBER, 1908.

No. 4.

HILE the editorial staff of the Monthly Bulletin does not wish to appear as praising its own work, it is only fair, as a matter of record, to refer to the great numbers of letters which the Director is constantly receiving from all parts of the world commending its improvement not only in general appearance and quality but in all those details which go to make up a successful and popular publication. The editors of several of the leading magazines of the United States, which have an enormous circulation, have gone out of their way to remark upon the excellence of the BULLE-TIN, especially as it is official in its nature and is limited by rules and regulations which do not apply to unofficial publications. When copies of the Bulletin for September and October, 1908, are compared with corresponding months for 1907, and again with those for 1906, the remarkable progress and improvement made are at once understood and appreciated. In view of the overwhelming demand for the BULLE-TIN in its present form, it is almost to be regretted that it can not take advertisements and thus be able to increase its revenue and print more copies. Under the present rules it is entirely dependent, in the matter of the expense of preparation, on a small appropriation and a limited list of subscribers which must be kept within a certain number of copies. In another year new rules and regulations may be adopted which will give more elasticity in the income and circulation of the BULLETIN, with corresponding benefits to the development of commerce and trade among the American Republics and to that increasing constituency of the Bureau which wishes to be supplied with accurate information regarding the American Republics. In recording these observations, however, the Director wishes to state that he is fully conscious of many shortcomings in the BULLETIN, and he asks not only the forbearance but the assistance of all men interested in the promotion of pan-American comity in making it an ideal official international publication.

While the utmost care is taken to insure accuracy in the publications of the International Bureau of the American Republics, no responsibility is assumed on account of errors or inaccuracies which may occur therein.

SATISFACTORY PROGRESS OF THE NEW BUILDING.

In answer to the constant inquiries about the new building of the International Bureau, it can be said that excellent progress is now being made in its construction. The brickwork of the basement is already laid, the first tiers of marble are in position, and much of the steel floor and upright work is in place. It is now possible to gain an idea of the size of the structure and the commanding appearance it will have when finished. No building in the history of Washington has been constructed more solidly, and, when completed, it should be able to stand the wear and tear of ages. The contractors promise to have a skeleton roof on before the season of snow comes, so that work on the interior can be pushed forward and the building be practically completed by the middle of next summer. Photographs of the work published in the BULLETIN from time to time give evidence of the progress being made in construction.

THE WEST COAST OF SOUTH AMERICA.

In the report of Special Agent Charles M. Pepper made to the Department of Commerce and Labor of the United States, stress is laid upon the prospect of improving the steamship facilities from Panama to the south both as a benefit to trade and to mail transport. The Peruvian Government has at present two 18-knot steamers building in British shipyards, the first to be put in commission in the spring of 1909, and when the new line is in full operation the time from Panama to Callao will be reduced to five days instead of twelve, as at present. With a twelve-day service between Panama and Valparaiso under Chilean subsidy, conditions will be further improved, so that while, as Mr. Pepper states, conditions on the west coast do not favor the establishment of industries on a large scale, ample opportunities will be furnished for the extension of trade relations between the United States and the countries of the Pacific. The total foreign commerce of Ecuador, Peru, Chile, and Bolivia is estimated between \$250,000,000 and \$260,000,000, of which the United States has about \$50,000,000, the balance being slightly against the latter country. There is a tendency to increase the proportions, and with adequate transport facilities much might be done. Harbor improvements necessitated by increased trade for the west-coast countries are estimated at about \$60,000,000, those of Valparaiso involving an outlay of \$20,000,000. Other improvements in railway transport would be brought about, and in the report of Mr. Pepper each country's resources in this respect are set forth in detail. It is noted that most of the construction now in progress is due to United States capital, that country also supplying the bulk of railway material and mining machinery. Heavy investments have also been made by United States capitalists in the development of mining properties.

DEATH OF EX-DIRECTOR FREDERIC EMORY.

It is with sincere regret that the Monthly Bulletin has to record the death of the fourth Director of the International Bureau of the American Republics, Mr. F. EMORY, who passed away on September 20, 1908. EMORY was a distinguished scholar, a journalist of great ability and judgment, a novelist of renown, and a lifelong friend and defender of the policy of obliterating all prejudices between the three Americas, in a commercial and social sense. For twelve years Mr. Emory devoted himself to the service of the United States Government, leaving behind him an excellent record as Chief of the Bureau of Trade Relations under the Department of State, as Secretary of the International Bureau of the American Republics in 1893, from which place he returned to the Department of State as Chief of the Bureau of Statistics, where he edited the "Consular Reports" and a number of statistical publications. death of Mr. Joseph P. Smith, third Director of the International Bureau of the American Republics, Mr. Emory was appointed to fill the position in a temporary capacity in February, 1898. The work done by Mr. EMORY in the reorganization of the Bureau was of such a character that the Executive Committee of this institution as a reward for his services appointed him Director, giving him a vote of confidence. In May, 1899, however, Mr. Emory, whose duties at the International Bureau and at the Bureau of Statistics were such that made it practically impossible for him to discharge both to his satisfaction, was superseded by Mr. W. W. Rock-HILL, now American Minister to China. As a token of respect to the memory of Mr. Emory, the Bureau's flag was ordered at half-mast on the day of the funeral.

EXCELLENT WORK OF UNITED STATES CONSULAR OFFICERS IN LATIN AMERICA.

The Bulletin wishes to commend the quality and character of the majority of the reports of United States Consuls which are now being published by the Bureau of Manufactures of the United States Department of Commerce and Labor. They show that the average American Consul is efficient and is doing his best to provide the merchants, exporters, and manufacturers of the United States with the class of practical information which they need. Now and then there is a report which may be of little value, but there is no reason why this should blind people to an appreciation of the others which are excellent. Most of the criticism that is now directed against the United States Consular Reports comes from men who do not read these carefully or do not comprehend the labor that a Consul devotes to their preparation. The fact that the Bulletin does not give much space to them is not due to its lack of appreciation of their data, but to the fact that they are nearly all made public through the Daily Consular and Trade Reports, and to give them again in the



 $\label{theory} \mbox{THE LATE FREDERIC EMORY,}$ Fourth Director of the International Bureau of American Republics.

BULLETIN would be merely duplication. Beginning, however, with the next issue of the BULLETIN, there will be published a list of all the Consular Reports on Latin America in the previous month, together with the names of the Consuls preparing them, and the subjects discussed. This will provide a useful record of material that has been made public and form a ready reference list which can be consulted by the constituency of the BULLETIN wishing to know what reports are obtainable from the Bureau of Manufactures.

THE PAN-AMERICAN SCIENTIFIC CONGRESS.

From the number of papers that are being prepared for the Pan-American Scientific Congress, which meets in Santiago, Chile, next December, it would appear that this gathering will be most successful in every respect. At least a score of papers have been sent to the International Bureau for translation, from different American scientists, in addition to those which will be submitted by the regular United States delegates. Dr. L. S. Rowe, the chairman of the delegation, is now in the Argentine Republic, where he will remain until he proceeds to Chile, shortly before the opening of the Congress. Dr. William R. Shepherd, of Columbia University, New York, is now in Spain making some investigations before continuing his journey to Chile. Several of the other delegates are on their way, while others are preparing to start in November. An interesting discussion of the effects of the Pan-American Scientific Congress to be held in Santiago during December, has been reproduced in this issue from the "Revista de Derecho, Historia y Letras," of Buenos Aires. A consideration of the fundamental differences of American and European mentality and of the methods of greatest value in the development of the former is stated as the central idea of the coming Congress. Seventeen Republics are to be represented at the sessions, and all the principal universities of America have notified the committee in charge that they will send delegates. Extensive preparations are being made for their reception and the steamship lines running to Santiago will reduce their rates by one-third for the occasion.

THE INTERNATIONAL HORSE SHOW IN BUENOS AIRES.

In the month of November there will be held in Buenos Aires, Argentine Republic, a great international horse show, to which foreign countries have been invited to send military representatives to take part in the various cavalry competitions, which will be a feature of the programme. There has been some correspondence on this subject between the Argentine Legation in Washington and the State and War Departments, it being desired that some of the best cavalry officers of the United States Army might be able to go, accompanied by their trained horses.

UNITED STATES MINISTER TO HONDURAS.

The Minister from the United States to Honduras, the Hon. WILLIAM BROOKS SORSBY, is a native of the State of Mississippi, and was born in 1858. By profession he is a newspaper editor and was connected with several papers in his native State prior to his appointment as Consul-General at Guayaquil, June 26, 1889. In 1893 he retired from the consular service to engage in gold mining in Ecuador. Four years later, in 1897, he reentered the service as Consul at San Juan del Norte, Nicaragua, from which place he was transferred to Kingston, Jamaica, November 22, 1901. He was appointed by President Roosevelt Envoy Extraordinary and Minister Plenipotentiary to Bolivia, July 11, 1902, and after a service of six years at La Paz was, on June 5, 1908, transferred to Honduras, with residence at Tegucigalpa.

THE CONSUL-GENERAL OF PERU IN NEW YORK CITY.

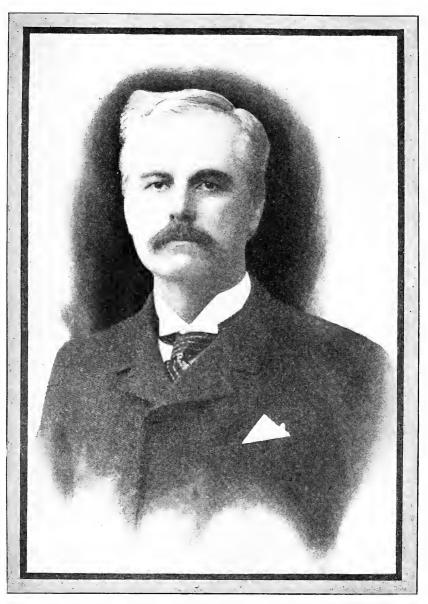
A recent issue of "System" contained an interesting article about the Consul-General of Peru in New York, Mr. Eduardo Higginson, which is a credit to the country and to the man representing it. The caption in "System" under the portrait of Mr. Higginson says:

EDUARDO HIGGINSON, Consul-General of Peru, whose New York office is a model information bureau for business men interested in the export and import trade. Mr. HIGGINSON has been in the Peruvian Consular Service for sixteen years. His success in attracting capital to Peru and in opening markets to his country's products has placed him in the position of "advance agent" for the Peruvian business man. There are similar offices in London and Berlin.

We congratulate the Consul-General on this opinion of his office, given by a magazine, which is a good judge in that respect.

ECONOMIC STATUS OF THE ARGENTINE REPUBLIC IN 1908.

Data covering Argentine conditions for the first six months of 1908 demonstrate a remarkable era of prosperity prevailing throughout the Republic. Trade values for the period are given as \$454,349,628, an excess of imports over the corresponding period of the preceding year being noted in the amount of \$1,000,000, while exports show an advance in value of over \$38,000,000. Harvest reports show a million-ton increase in the wheat yield for the year and in linseed a gain of nearly 300,000 tons, while the maize crop is expected to offset the comparative failure recorded in 1907. Industrial advancement is indicated by the fact that an increased number of mills and factories are operating throughout the country, while among the extensive improvements in process in the port of Rosario is included the construction of the largest and best-equipped grain elevator in South America. Railroad connections are being extended, and many works of public utility have been provided for by the Government in honor of the approaching centenary of the country's independence.



 $\label{eq:hon.william B. SORSBY,}$ Envoy Extraordinary and Minister Plenipotentiary from the United States to Honduras.

FINANCIAL AND INDUSTRIAL CONDITIONS IN BOLIVIA.

The report recently presented to the Bolivian Government by the Minister of Finance and Industry, extracts from which are reproduced in this number of the Bulletin, sets forth the commercial values of the most important national products. It is shown that while the tin output in the last statistics (for 1907) showed a decrease as compared with that of the preceding year, silver values advanced as did that of several vegetable products of the country. An analysis of Bolivian petroleum recently made in the United States has given satisfactory results. The President's message to the National Congress delivered on August 6 was an exposition of the country's political status.

BRAZIL'S COFFEE LOAN AND NATIONAL INDUSTRIES.

The successful floating of Brazil's coffee loan for \$60,000,000 is a matter of paramount interest in the coffee world. The distribution of the loan is general, though London and Paris take the bulk, or \$50,000,000. Interest is being shown to an increased extent in the development of mining properties, and a recent code promulgated in the State of Bahia is intended to stimulate the exploitation of a valuable national resource. In addition to the immense advance shown in the textile industries along established lines, such as the weaving of cottons and silks, it is proposed to place the valuable perini fiber, or linen plant, on a commercial footing, while the culture of silkworms and the growing of mulberry trees has passed beyond the experimental stage. It was with the purpose of demonstrating not only the extent of the national resources but also the practical local application of them that the Brazilian Exposition now in progress was inaugurated.

UNITED STATES MINISTER TO GUATEMALA.

Hon. William Heimké, the United States Minister to Guatemala, is a native of France, born in 1847, and naturalized in the United States. He came to America at a very early age, and when only fifteen, in 1862, enlisted in the Seventeenth Infantry of the Regular Army. He served with distinction during the Civil War and was engaged in several of the most important battles. After the war he was headquarters clerk to Generals Sherman, Pope, Hancock, and Sheridan, and was also in the Quartermaster's and Commissary Departments under Generals Van Vliet, Santon, and Morgan. In 1881 he became purchasing agent for the Mexican Central Railroad, and two years afterwards, in 1883, was appointed general manager of the Chihuahua and Durango Telephone Company in Mexico. After four years with the telephone company he again entered the service of the United States as Vice-Consul at Chihuahua, appointed February 2, 1887. He was advanced to Consul August 18,



HON. WILLIAM HEIMKE,

Envoy Extraordinary and Minister Plenipotentiary from the United States to Guatemala.

Photograph, Harris Ewing.

1892, and retired in September, 1893. After nearly four years of private life he was in May, 1897, appointed Second Secretary of the Legation at Mexico, and was promoted to First Secretary and assigned to the Legation at Bogota, July 18, 1906. He was appointed Envoy Extraordinary and Minister Plenipotentiary to Guatemala March 10, 1908. Mr. НЕІМКЕ is a member of the American Academy of Economic, Social, and Political Science of Philadelphia and of the International Folk Lore Society of Chicago.

THE COLOMBIAN MINISTER AT WASHINGTON.

In the report made by the Minister of Foreign Relations of Colombia to the National Congress in July, special mention is made of the valuable services rendered his Government by the present Colombian Minister in the United States, Señor Don Enrique Cortes. Not only has he been instrumental in maintaining the cordial relations between the two Governments, but he has been instructed to include in the new treaty to be negotiated the most favorable conditions possible for Colombia in regard to traffic through the Panama Canal. The translation of the United States Public Health Report on the bubonic plague, furnished the International Bureau by Señor Cortes, has been widely reproduced in the papers of Latin America with appreciative comment on the value and excellence of the work.

COSTA RICA'S COMMERCE IN 1907.

Costa Rican commerce in 1907 indicates the steady growth of this Central American Republic, imports for the year showing an increase of 1.04 per cent and exports of 3.30 per cent as compared with 1906. The preponderant value of bananas as an article of export is recorded in the fact that out of a total valuation of \$9,350,000 this item figures for \$4,864,000 on the exportation lists. Practically all of this fruit is received at United States ports, but an extensive propaganda is being made with satisfactory results to introduce it generally in European markets. It is noteworthy that the neighboring Republics advanced their percentage on the import list of Costa Rica from 1.62 per cent to 9.02 per cent, the increase being covered principally by cattle. Important regulations in regard to the shipment of cattle and the receipts thereof have been decreed effective from September 15.

RAILROAD PROGRESS IN ECUADOR.

The message of the President of Ecuador, delivered to the National Congress on August 12, 1908, outlines the conditions prevailing throughout the country during 1907 and the first part of the present year. He

states that while the budget of expenditures and receipts for the year show a slight deficit, it must be borne in mind that the additional outlay was made on account of the Southern Railway, and his advocacy of railroad construction as a means of developing the resources of the Republic is emphasized. Not only has the Guayaquil to Quito line been successfully inaugurated, but in August preliminary work was begun on the road from Huigra to Cuenca with the prospect of opening up the rich mining and agricultural districts of the southern section of the Republic within two years. Extensions are recommended on existing lines and the inauguration of new enterprises urged.

THE CENTRAL AMERICAN BUREAU IN GUATEMALA.

The inauguration of the International Central American Bureau in Guatemala City on September 15, 1908, was a practical fulfillment of one of the important conventions made at the Peace Conference of Washington in 1907. The presence of the President of the Republic and many notable personages gave an added importance to the event, which was also made the occasion of popular rejoicing. The following telegraphic dispatches were exchanged in regard to the event:

GUATEMALA, September 16, 1908.

DIRECTOR BUREAU OF THE AMERICAN REPUBLICS, Washington.

Greetings: We have the honor to inform you that the President of this Republic has inaugurated to-day in this capital with imposing ceremonies and great public rejoicing the International Central American Bureau which we compose. We have firm intentions of carrying out the lofty and generous ideas embodied in the Convention of Washington creating this important institution.

(Signed)

RICARDO J. ECHEVERRÍA,

Delegate from Costa Rica.

CARLOS GUILLEN,

Delegate from Salvador.

JOSÉ PINTO,

Delegate from Guatemala.

MANUEL P. BARAHONA,

Delegate from Honduras.

BENJAMIN F. ZELEDON,

Delegate from Nicaragua.

Washington, D. C. September 18, 1908.

To the President of the International Central American Bureau.

Sincere congratulations on the establishment of the Bureau, a new proof of the good will existing between the Central American peoples. Thanks for the telegram of Messrs. Echeverría, Guillen, Pinto, Barahona, and Zeledon.

JOHN BARRETT.

MEXICAN COMMERCIAL STATISTICS AND RAILWAY DEVELOPMENT.

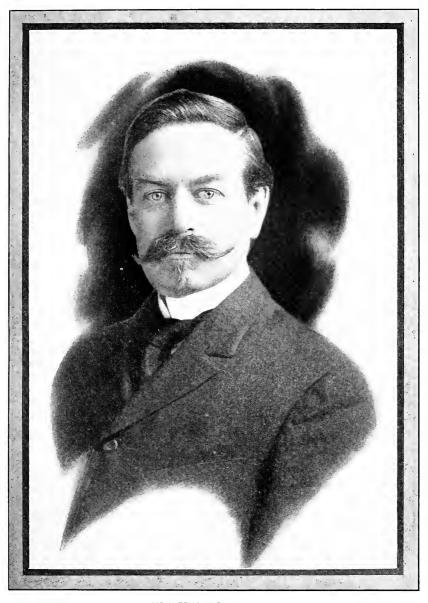
The enterprise of the statistical department of Mexico renders it possible to publish details of the trade of that country with great promptitude, returns being at hand covering the trade for the fiscal year ending June 30, 1908. It is shown that a decline of something more than \$8,000,000 occurred in the total commercial value as compared with the preceding fiscal year. Of this decrease over \$5,000,000 is attributable to imports, the only notable item on this list being textiles, which show a gain of \$2,400,000. As the bulk of Mexican exports consist of raw materials for which the demand abroad was smaller on account of the business crisis prevailing, and as prices were correspondingly depressed the explanation of the export decline is obvious. Furthermore, the same condition reacted upon Mexican purchases made abroad for importing purposes, thus accounting for decreased imports. Full particulars of the year's trade are published in the BULLETIN. The completion of the Mexican section of the Pan-American road, the opening of the Tehuantepec, and other extensions are to be followed by the standardizing of the Interoceanic line, which is announced for the early months of 1909. The National railways of the Republic are to be photographically featured at the New England Food Exhibit of Boston in October in connection with a display of the industrial resources of the Nation. Panoramic views and scenes of Mexican life along the railroad are to be exhibited in an artistic setting and subsequently shipped to the Mexican National Exposition at London.

UNITED STATES MINISTER TO THE DOMINICAN REPUBLIC.

The Hon. Fenton R. McCreery, Minister from the United States to the Dominican Republic, is a native of the State of Michigan, and was born in 1866. He was educated in the Michigan Military Academy and in the University of Michigan, graduating from the latter in 1888. He was appointed Secretary of Legation at Santiago de Chile November 7, 1891, prior to which time for one year he had served as clerk in the United States Consulate at Valparaiso. In May, 1893, he retired from the diplomatic service, but returned to the same on April 8, 1897, as Secretary of Legation at Mexico, where he served until his appointment as Minister to the Dominican Republic. From August 4, 1905, to March 7, 1906, he acted at Chargé d'Affaires at Mexico. He was appointed by President Roosevelt, on January 10, 1907, Minister Resident and Consul-General to the Dominican Republic, with residence at Santo Domingo.

MESSAGE OF PRESIDENT AMADOR GUERRERO.

On September 1, 1908, an important document was presented to the National Assembly of Panama in the form of the message of the retiring President, Dr. Manuel Amador Guerrero. A résumé of the general



HON. FENTON R. McCREERY,

Envoy Extraordinary and Minister Plenipotentiary from the United States to the Dominican Republic.

Photograph, Harris-Ewing.

conditions existent throughout the country, both politically and economically, shows a satisfactory status for the young Republic. Financial reports are excellent, the national receipts for the six months ending June 30, amounting to \$1,259,574 from internal taxes and a balance being turned into the Treasury after the payment of current expenses of \$105,307.

CANNING COMPANIES IN PARAGUAY.

An important development of native industry in Paraguay is covered by the granting of governmental franchises to companies engaging in meat extract and meat canning enterprises. All materials and machinery necessary for the installation of plants may be brought into the Republic free of duty, and cattle from the Argentine Republic and from the State of Matto Grosso, Brazil, are also exempt from import duty.

PERU AND THE MINING INDUSTRY.

In a paper specially prepared by the Minister of Fomento of Peru stress is laid upon the possibilities of the mines of the Republic and the aid provided by the Government for their exploitation. Tribute is paid to the influence and participation of United States capital, notably in the Cerro de Pasco region. These mines are said to be producing 3,000,000 pounds of copper per month at a net cost f. o. b. in New York of 9 cents a pound. The total production of the Republic in 1907 was worth more than \$8,500,000, which was almost double that reported for the preceding year. All materials and machinery for exploitation of mining properties are free from import duty, and liberal grants are made to interested purchasers.

THE NEW NATIONAL PALACE, SALVADOR.

The new National Palace of San Salvador, Republic of Salvador, occupies a picturesque location of 100 square yards fronting the handsome grounds of Bolivar Park, a beautiful square of equal area near the center of the metropolis of the country. The magnificent and imposing structure, which is of iron, is faced with delicately tinted fire brick and rests upon massive stone foundations. The roof is of corrugated iron. The architecture is a combination of French and Italian Renaissance developed from the classic Greek-Roman style. The building, with its two elevated towers, its marble trimmings, and great interior and exterior beauty, is a work of art worthy of being seen and visited by natives and foreigners, and an edifice of which Salvadorians may well be proud.



"The Other Americans," by ARTHUR RUHL (Charles Scribner's Sons), New York. This volume, prepared in Mr. Ruhl's characteristic style, will be welcomed by the general reader as an appreciative exposition of the life and surroundings of the Americans of Venezuela, Colombia, Panama, Ecuador, Peru, Bolivia, Chile, the Argentine Republic, Uruguay, and Brazil. In his progress through these various countries the writer finds the most striking circumstance to be the curious blending of old and new. Engineers, promoters, prospectors, drummers, etc., skirmish over the fields of antique civilization; the American sewing machine whirrs in the environment of the viceroys; and the phonograph blares modern operatic and street tunes in the mining camps of the heart of the Cordilleras. In the coquettish capital of Venezuela the news of the Parisian boulevard is the news of the day, but in Bogota, situated 10,000 feet in the air, in the interior of a country ten times as large as the State of New York, the regimen of Spanish life prevails, and here the tongue of Cervantes and Calderon is spoken with greatest purity. At Panama, the West Indian negro arrives for canal labor attired in the conglomeration of British ready-made clothing, to be shortly shed for almost jungle nudity. Down the west coast the Pacific steamer performs the functions of a houseboat, freighter, village gossip, and market gardener, and articles of international trade become almost human connecting links between the world's marts and the eager purchasers whether these articles be Panama hats, milling machinery, fresh chocolate, or pineapples. In Peru, the highest railroad in the world, and the most extraordinary, climbs to a height of 15,665 feet above sea level over the Peruvian Andes, past mud villages and mediæval structures, leaving in the rear the trailing llama trains of the past to arrive finally on the roof of the world where is a cheerful barroom with every kind of bottle known to the Anglo-Saxon ranged along its walls. In Lima, where lie Pizarro's bones, is a modern statue of poignant pathos erected to the memory of the Peruvian hero of the war with Chile representing him in the moment of defeat, while in the San Marcos University established by Charles V in 1551, the Lima co-ed takes notes on the history lecture in a room full of darkeved señors. The Peruvian city of Arequipa, lying in a buried valley, overlooked by a dead volcano, is reached by a Yankee railway, and is the home of the Harvard Observatory in South America. Chile bustles with the noise of a nation finding itself amidst traditions of the past, while across the Cordilleras, crowned by the bronze Christ, the Argentine Republic receives its flood of European immi-

grants and sends forth its harvest products for the support of the stay-at-homes, and Uruguay prepares its beef extract for the hospitals of the world. Because of her coffee Brazil has more tangible utilitarian meaning to North Americans than most of South America, but its capital has its Academy of Forty Immortals, its Fine Arts Academy, and its opera season as New York and Buenos Aires, and its great public library is the memorial of the temporary transfer of the Portuguese court thither in 1808. All this fascinating disarray moves across the pages of Mr. Ruhl's book, borne on a current of comment, pertinent, vivacious, and veracious. Many of the chapters have previously appeared, in part, in "Collier's" and "Scribner's Magazine," but every word will bear rereading by pleasure or profit seeking students.

"Peru," by C. REGINALD ENOCK, F. R. G. S. (printed in Great Britain and imported by Charles Scribner's Sons), New York, 1908. This history of a great South American Republic is one of a series of publications designed to set forth the present civilization, history, topography, natural resources, and general development of the countries of Latin America. It is a worthy successor to the previous work of Mr. ENOCK, entitled "The Andes and the Amazon," and, like that volume, contains a scholarly introduction by Martin Hume, who is editing the series. The story of the conquest of the Incas, with its deeds of shame and wrong, furnishes, of course, the romantic episodes of the volume; but it is to be noted that the more or less extravagant notions as to the splendor of Inca civilization as indicated in their road construction are entirely dispelled. While the roads were excellent and suitable for travel, as understood in those days, they bear no comparison with modern construction for modern needs. On the other hand, the Oroya Railway is held up as an example of audacious construction principles. This road is a type of present-day advancement in Peru, where good government and internal development are the main purposes of administration. The fabulous mining wealth of the country is discussed with moderation, and note made of the fact that within the last years the agricultural resources are bidding fair to take front rank in the nation's economic life. These two industrial branches have an annual valuation of about \$17,000,000, and are capable of greater development. The lack of capital is being met by foreign interests, notably those of Great Britain and the United States, while the labor question is being solved by the employment of large colonies of Japanese.

Many of the Indians occupying the upland and forest regions, being of a hardy constitution, are much employed in mining industries, but the destructive effects of Spanish rule greatly reduced the native popBOOKS. 635

ulation. In the mad thirst for gold that was the mainspring of the conquest, large bodies of the Indians were condemned to cruel hardships, so that the native population of the Andine regions of the present day is something under two millions. The mining laws of the country are liberal, and have greatly stimulated to revival of interest in mineral development. The silver product in 1907 was a little over \$6,000,000, and Mr. Exock is of the opinion that in spite of the great extent of mines their output in the past has been greatly exaggerated. The impress of the Spanish régime is observable in the aristocratic bearing of the upper classes, the romantic beauty of the women, and the rigid observance of social etiquette, but with the industrial development that has marked the last decade, more of an Anglo-Saxon tendency is to be remarked. Step by step the conditions which have marked the evolution of Peru are followed by the writer, with the final conclusion that the country contains both in her soil and people elements of greatness which are being worthily developed.

"The Brazilian Year Book" for 1908 covers in exhaustive detail all matters relating to the economic life of the Republic of Brazil up to the close of 1906, with such supplementary information as was obtainable up to the time of its final going to press in February, 1908. Its issuance marks an epoch in the compilation and publication of Brazilian statistics, as it is the first standard English annual of its class. Compiled and edited by J. P. WILEMAN under the patronage of the Brazilian Government, it contains a mass of information valuable to investors and business men generally. The general comment as to the absence of any data covering the valorization project may be explainable from two standpoints; in the first place the agreement in regard to coffee holdings and valuation entered into between the Brazilian States was not acted upon finally until August, 1906, and therefore in the latest year covered in the volume (1906) the workings of the project were not discoverable. In the second place, Mr. WILEMAN has until lately occupied the position of Director of the Brazilian Statistical Service, from which he recently resigned, as he considered his governmental connections inconsistent with the expression of his opinion concerning this and other national measures in the "Brazilian Review," of which he is editor. Aside from this lack, every matter of Brazilian interest is reported on-historical, geographical, geological, statistical, and financial. The explanation of the Conversion Law and of the object in establishing the "Caisse" is lucid and informing, while the section devoted to municipal issues and stock companies is of noteworthy value. The volume, which contains comparative statistics for five years and comparisons, in some

cases, for fifty years, will no doubt become a standard reference book, and it is promised that future issues shall be more prompt and extended. Commercial values are given in pounds sterling, thus simplifying the comparisons with figures of other countries.

"The United States as a World Power," by Archibald Cary Cool-IDGE (The Macmillan Company, New York), 1908. In this volume are discussed many important and urgent aspects of the United States considered as a prominent factor in the world's progress. was the Hyde lecturer at the Sorbonne in the winter of 1906-7, and it is of the substance of the lectures then delivered that the volume is composed. A large portion of the work covers a critical consideration of the present and possible status of the mutual relations of the United States and European nations, and further, of the resultant effects of the Panama Canal and Latin American relations. application of the tenets of the Monroe Doctrine it seems an absurdity to Mr. Coolings that the Atlantic Ocean should be regarded as a natural barrier between peoples to a greater degree than the Pacific, though this definition seems to represent the geographical limits of the doctrine as at present comprehended by the American mind. An interesting section is devoted to the policy known as pan-Americanism, which, it is stated, is based on two considerations. The first is a sentimental one, proclaiming the natural community of ideals and aspirations of the American Republics, and the second of a more practical nature, having for its object the economic exploitation of American resources for American needs, which will result in binding the nations of the Western Continent by commercial ties to the advantage of both. The application of the principle as affecting the various countries of Latin America is considered, as well as the claims of other lands to establish a working theory of pan-Iberianism, pan-Germanism, etc., while the preponderance of German commercial influence in Brazil is comprehensively noted.

"The New Brazil," by Marie Robinson Wright (George Barrie & Sons), Philadelphia. In this, the second edition of her interesting work on Brazil, Mrs. Wright has revised and enlarged the former issue and brought it up to date. It is stated in the introduction that all eyes are now turning toward South America and that there is every reason to believe that the phenomenal growth and progress which marked the history of the United States of America during the nineteenth century will be duplicated in the next hundred years by her sister Republic and friend—the new Brazil. In many ways this

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condition seems to have been already attained and the accounts of the natural, industrial, and commercial resources of the vast country demonstrate still greater possibilities. Special importance is given to the assembling of the Pan-American Conference at Rio de Janeiro and the visit of the Secretary of State of the United States, while the remarkable embellishments of the capital effected within recent times, the harbor improvements at the various great ports, and the encouragements offered to the development of new industries are noted in laudatory terms. Of especial interest are the numerous and beautiful illustrations of public buildings, plantations, natural beauties, and industrial plants with which the volume abounds. Portraits of public men and celebrities—literary and professional—put the reader in touch with the best of Brazilian life.

"The Future of Cacao Planting," by Harold Hamel Smith, editor of "Tropical Life" (John Bale, Sons & Danilesson, 91 Great Titchfield street), London. The book deals with the cacao-planting industry in all its branches and includes many valuable suggestions concerning the use of vacuum chambers for drying the beans, the principle of planting belts of rubber and other economic plants around the cacao to distribute the financial risk, the grafting of trees, improved methods of pruning, and green manuring. It is rather an essay than an exhaustive treatise, but, as there is an appendix with opinions and criticisms from some of the leading cacao experts in the West Indies and the Gold Coast, it has been made a valuable handbook of the cacao industry.

"Viva Mexico," by Charles Macomb Flandrau (D. Appleton & Co.), New York. The enthusiasm of the writer concerning his topic is evidenced by the book's title, and in his capacity of coffee planter Mr. Flandrau was enabled to come into closer touch with the national industrial life than most makers of books. Aside from an untechnical and therefore understandable account of the manner of planting, growing, and marketing coffee, many attractive sketches are given of Mexican life and customs, while in regard to the popular statement that the City of Mexico resembles the city of Paris, the opinion is expressed that the Mexican capital is like nothing but itself and is the better for it. It is wonderful and growing more wonderful every day.

"On the Canal Zone," by Thomas Graham Grier (press of the Wagner & Hanson Company), Chicago. This is a record of per-

sonal impressions concerning the conditions of the Canal Zone in 1908, and may be regarded as a corollary to previously issued publications on the subject. Apart from an introductory sketch it deals solely with present-day events, and is a valuable exposition of the work accomplished both in regard to the main object of Isthmian life—canal building—and such inherent requisites as sanitation, recreation, food supplies, dwellings, and workmen. A variety of halftones illustrates the topics treated and adds further interest to the book.

"Mexico with Comparisons and Conclusions," by A. A. Graham, (Crane & Co.), Topeka, Kansas. The author treats the Mexican Republic to a study, in advancing scale, from the following viewpoints: Physical, industrial, commercial, religious, political, and, finally and principally, social. In making comparisons, the institutions of the United States are taken as a standard in the main, but those of other countries are also used under certain conditions. While the conclusions set down were arrived at after a two months' stay in the country and might be re-formed after a more intimate knowledge of the subject, many interesting statements are made on the topics discussed.

"The Justice of the Mexican War," by Charles H. Owen (G. P. Putnam's Sons), New York and London. The aim of the writer of the book in reference, as stated by himself, has been to sift the evidence introduced by historians in regard to the war of 1848 between Mexico and the United States, and to distinguish, in the interest of truth, between opinion, assumption, and mistaken reasoning. As a result a valuable brief for the United States' side has been presented to the judicial criticism of the world on a case concerning which there has been much difference of opinion in the past.

Other books received by the Columbus Memorial Library:

"One Way Round South America," by Delight Sweetser Prentiss (the Bobbs-Merrill Company), Indianapolis. A personal narrative of travel through interesting lands.

"Blue Waters and Green," by F. Dumont Smith (Crane & Co.), Topeka, Kansas. A record of a trip made to the Far East, with studies of people and customs. Illustrated.

"Dockham's American Trade Reports," Boston, 1907. Covering textile manufacture and dry goods trade and directories. Forty-first year.

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"Porto e Cidade do Recife" (the Port and City of Recife), by ARTHUR ORLANDO, Pernambuco. The volume is an exhaustive historical and chronological review of the port and city of Recife, and a report upon the sanitary conditions of same.

"O Estado Moderno e a Agricultura" (the Modern State and its Agriculture), by A. Gomes Carmo, Rio de Janeiro, Brazil. Contains an extensive and well-written report upon the different methods of agricultural industries adopted by several nations, among which the United States, in his opinion, takes the lead.





"Leslie's Weekly" for September 17, 1908, publishes one of a series of papers written by Mrs. C. R. Miller on Latin American topics, the one chosen for this issue being a consideration of "What American Capital is Doing for Peaceful Costa Rica." The most noteworthy achievement is the development of the banana industry of the country, it being stated that Port Limon, which a few years ago was a tropical swamp, has been transformed into a thriving, healthy town of 7,000 or 8,000 inhabitants, possessing one of the best harbors in Central America, from which each month from 30,000 to 40,000 bunches of bananas are shipped to the United States. A railroad owned and operated by Americans runs from Port Limon to San José, a distance of 102 miles. Next to bananas, coffee and cacao rank as articles of commercial interest among the vegetable productions of the country, and both enjoy a high reputation in the world's markets. Costa Rica was the first Central American country to revise the old Spanish laws and to bring her jurisprudence into accord with that of other advanced nations. The capital is cosmopolitan in its social characteristics, and the Chief Executive, Cleto Gonzales VIQUEZ, is a man of high literary attainments as well as a statesman of the first rank. He is especially appreciative of the benefits accruing to his country through the investment of United States capital. English is taught in the schools, and through the efforts of the Minister from Costa Rica in Washington instructors from the United States have been placed in charge of certain branches of public instruction and hygiene.

"Van Norden Magazine" for October, 1908, devotes considerable space to a paper written by Freeman Tilden on "Uruguay—the Oriental," which, though the smallest Republic in South America, is also proportionately one of the richest and most successful. It maintains its finances on the gold standard, and the capital, Montevideo, is noted for the culture and refinement of its inhabitants. It is calculated that about 250,000 cattle are slaughtered annually by the Liebig Extract Company, operating at Fray Bentos, and that the live stock in the country numbers 8,000,000 cattle, horses 610,000, and sheep nearly 22,000,000, while many thousands of live cattle are annually driven into Brazil from the pastures of its small neighbor. The Montevideo harbor, whose value has been greatly injured by the earth and mud brought down by the River Plate from the interior, is

to be deepened and improved by a French company, at an expenditure of \$25,000,000, for which the Republic was not obliged to contract a loan. Paysandu and Salto are Uruguay River ports, and to the former ocean-going steamers can ascend for their cargoes of cured and canned meats, though it is many miles inland. The methods of preparing meat for export are reported as beyond reproach in every way, and this industry forms one of the leading sources of wealth to the prosperous Republic. With an annual foreign trade valued at nearly \$70,000,000, the share taken of the United States is about one-tenth.

"The Bimonthly Bulletin of the American Institute of Mining Engineers," for September, 1908, has a valuable résumé of the geological distribution of "The Silver Mines of Mexico," by Albert F. J. Bordeaux, France. Placing the Republic second as a copper producer and seventh as a gold producer, it is accorded front rank in silver production, with a yearly metallic output worth \$160,000,000 (Mexican) and an invested capital of \$250,000,000, the figures being for 1906–7. Recorded mining properties number over 20,000. The yearly silver product ranges between \$45,000,000 and \$50,000,000 gold.

The same issue publishes a consideration of "The Future Gold Output of Colombia" and "Gold-Dredging on the Choco River," by Henry G. Granger, of Cartagena, whose information is collated after a fourteen years' residence in the Republic. The mining resources are stated to be as vast and varied as the Cordilleras which bear them, the platinum deposits being second only to those of Russia and occurring usually in combination with gold. The principal gold region is located on the great ridge that separates the Choco and Antioquia, and the scarcely less rich sister range between the waters of the Cauca and the Magdalena. Wherever there is gravel, there is gold, and while various attempts have been made in past years to dredge the gold and platinum gravels of the Choco River beds, modern equipment has been lacking. Recently, however, a dredge for which the necessary requirements are claimed has been sent to the Choco, and better results are to be expected.

[&]quot;Scribner's Magazine" for October has an account of "Diversions in Picturesque Game Lands," by William T. Hornaday, who describes the Pinacate region of northwestern Mexico as its wildest corner. Practically unknown and unexplored, the whole region is lava, with an obvious explanation for the absence of grass and water. But these lacks in no wise diminished the ardor and interest of the party, of which the writer was a member, only instead of their

energies being occupied in shooting big game the expedition became one of crater hunting, with cameras in addition. The fascinations of the sport are enthusiastically described, though the four-footed animals inhabiting that lava land are by no means numerous. The sheep of the region are to the zoologist and sportsmen extremely interesting products, for they represent the great genus *Ovis* at one of its American limits.

The "Century" for October, printing the "Experiences of a Naval Attaché," prepared by Commodore W. H. Beehler, U. S. Navy, records the writer's performance of duty as an intelligence officer at Rio de Janeiro and his permitted inspection of Brazilian forts and ships as a student of naval and military science shortly after the close of the Spanish war. He found, in some respects, a better equipment than existed in the United States, notably in the matter of torpedo boats. An interesting theory of the destruction of the *Maine* in the harbor of Havana is also included in the paper.

In its department devoted to foreign comment the "Literary Digest" for September 26, 1908, reprints extracts from the "Hamburger Nachrichten," sounding the keynote of German views as to the comparative position occupied in South American trade by the United States and Germany. The Monroe Doctrine is characterized as a shrewd commercial move, its results being shown in the fact that whereas the trade between Latin America and the United States in 1907 aggregated \$586,000,000, that of Germany was \$383,000,000 only. The future alone can show which part of the world is to benefit most from the industrial development of international privileges.

The September issue of "The Annals of the American Academy of Political and Social Science" is a tariff-revision number, in which, among other papers by recognized authorities, are the following on Latin-American topics: "Tariff Relations with Cuba—Actual and Desirable," by Edwin F. Atkins; "Notes on Our Tariff Relations with Mexico," by Hon. Francis B. Loomis; and "Reciprocity in Our Foreign Trade Relations," by William R. Corwinne.

[&]quot;Shoe and Leather Reporter" for September 24, 1908, has a contribution from the Director of the International Bureau of the American Republics, Mr. John Barrett, covering "Pan-American Opportunities." The writer deprecates the prevailing ignorance as to the

immense commercial possibilities offered by Latin America and endeavors, by the statement of well-established facts, to aid in dissipating this condition of affairs.

"The Spice Mill" for September, 1908, continues the publication of its articles on "The Coffee Industry of Spanish America," this issue being devoted to a consideration of Mexico as a source of supply. The Chiapas variety is considered as the best of the Mexican species, and several plantations were visited by the writer, Dr. Augusto Ramos, in the interest of the subject and extensively reported upon.

"The Bankers' Magazine" for September in its Latin-American section has a statement on "Foreign Capital in Brazil," notes on "Banking Rates in Colombia," and several general paragraphs reproduced from the August issue of the Bulletin.

"Dun's Review" for September, 1908, publishes a contribution from Robert A. Wilson, of San Pedro Sula, concerning "Present Conditions in Honduras," which is an interesting résumé of the economic status of the Republic.



IRRIGATION IN LATIN AMERICA

Address before the National Irrigation Congress, Albuquerque, New Mexico, United States of America, September 29-October 3, by John Barrett, Director of the International Bureau of the American Republics, Washington, D. C., and formerly United States Minister to Argentina, Panama, and Colombia.

HE remarkable achievements of our sister American Republics in irrigation and reclamation demonstrate forcibly the importance and progress of these nations. Their far-reaching work, both past and present, in this line of material development of their vast areas and limitless resources astonishes the average man and is little appreciated throughout the United States.

What they have done, are doing, and intend to do, rival the most ambitious schemes of this country and make us admire their enterprise and energy. If the irrigation expert of the United States were to visit and inspect the principal reclamation works between Mexico on the north and Argentina on the far south, he would return not only with new and valuable impressions which would be helpful in extending the work here but with an enthusiasm for the possibilities of our Latin American neighbors that would do much to foster closer relations of commerce and comity.

AN INTERNATIONAL PAN-AMERICAN IRRIGATION CONGRESS IN 1910.

Right here I want to make a recommendation which may be worthy of your careful consideration. It is that this National Irrigation Congress meeting here in Albuquerque, New Mexico, in 1908, take steps toward holding two or three years from now, or at some date in 1910 or 1911, a great International Pan-American Irrigation Congress, to which each one of the twenty Latin American Republics will be invited to send delegates and experts. Such a proposition carefully directed would surely meet with favorable response by our sister nations and would be the means of vastly benefiting, by mutual exchange of views and reports, irrigation undertakings in all America. It would be highly advisable that a committee should be appointed by this Convention to consider the carrying out of this plan and to ask the National Congress at Washington to make a reasonable appropriation to cover the participation of the United States. Such appropriation would give a Government sanction and



OLD METHOD OF IRRIGATION, MEXICO.



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SAN RENOVATO DAM, GUANAJAUTO, MEXICO.



require the appointment of Government delegates, which would insure the actual interest and participation of the other American Republics. As a special corollary to this main proposition, I would suggest further, as a step of international courtesy which would please not only our great and prosperous neighbor, Mexico, but all Latin America, that the national and private irrigation interests of Mexico be particularly invited to cooperate with those of the United States in preparing for, and extending invitations to, such a pan-American gathering. With this idea, moreover, goes the highly tempting possibility of holding this International Congress in Mexico City, the great capital of a nation which is second only to the United States in planning and supporting the movement for reclamation of arid areas and for the conservation of natural resources. The years 1910 or 1911 are mentioned, instead of 1909, because it would be impossible to do the preliminary work necessary and secure the acceptance of foreign Governments prior to 1910.

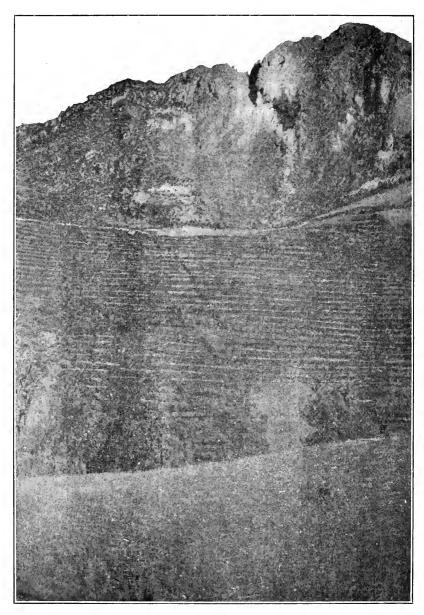
IRRIGATION NOT A NEW PROBLEM IN LATIN AMERICA.

Irrigation in Latin America is no new problem. In fact, there are to be found to-day evidences of great irrigating canals and systems built by the Aztecs of Mexico and the Incas of Peru long before the Spanish Conquest and even the discovery of North America. It is not my purpose in this address, however, to pay more than passing attention to these vast undertakings of the ancients—although they are worthy of close and careful consideration—but a few facts, illustrative of what they had accomplished in the line of irrigation before Europe invaded the New World may be of interest. The student of the problem of irrigation will find abundant material in Mexico, Peru, and the Argentine Republic to prove the beneficial work done by these early peoples.

Let us look for a moment at Peru. The Incas, the Peruvian aborigines, were thorough agriculturists, and, although much of the country along the seacoast suffered from want of water, as little or no rain fell there, many places were capable of being reclaimed, and, indeed, needed only to be properly irrigated to be susceptible of extraordinary production. To these spots water was conveyed by means of canals and subterraneous aqueducts, executed on a noble scale. They consisted of large slabs of freestone nicely fitted together without cement, and discharged a volume of water sufficient, by means of latent ducts or sluices, to moisten the lands in the lower level through which they passed. (Prescott.)

MIGHTY IRRIGATION PROJECTS OF THE INCAS.

Some of these aqueducts were of great length. One, that traversed the District of Condesuyo, measured between four and five hundred



INCA TERRACES IN PERU.

Many of these "andenes," or agricultural terraces, may be seen to-day all through the High-hands, even at an elevation of 14,000 feet. The area of cultivated land was greatly increased by this method, which consisted of tiers of stone walls on the sides of the mountain slopes, which were filled with earth. These terraces were irrigated by water obtained from the glaciers. The water was conducted to the narrow valleys and allowed to percolate through the series of terraces.

miles. They were brought from some elevated lake or natural reservoir in the heart of the mountains, and were fed at intervals by other basins which lay in their route along the slope of the Sierras. In this descent a passage was sometimes to be opened through rocks (without the aid of iron tools), impracticable mountains were to be turned, rivers and marshes to be crossed; in short, the same obstacles were to be encountered as in the construction of their mighty roads. Near Caxamarca a tunnel is still visible which they excavated in the mountains to give an outlet to the waters of a lake.

Most of these beneficent works of the Incas were suffered to go to

Most of these beneficent works of the Incas were suffered to go to decay by their Spanish conquerors. In some spots the waters are still left to flow in their silent subterraneous channels, whose windings and whose sources have been alike unexplored. Others, though partially dilapidated and closed up with rubbish, still betray their course. Such remains are found in the Valley of Nasca, where the ancient water courses of the Incas, measuring 4 or 5 feet in depth by 3 in width, and formed of large blocks of uncemented masonry, are conducted from an unknown source.

WATER ALLOTTED SO AS TO BENEFIT ALL.

The greatest care was taken that every occupant of the land through which these streams passed should enjoy the benefits of them. The quantity of water was allotted by law, overseers superintended its distribution and saw that it was applied faithfully to the ground. The people of the coast valleys of Rimac and Nasca were of marvelous industry, as is shown in their admirable system of irrigation by means of underground channels. Around the homes of the rulers were the fertile valleys, peopled by industrious cultivators and carefully irrigated. The irrigation works constructed in the upper part of the Chira Valley were astonishing in their magnitude and in the engineering skill with which they were constructed. In early days the two valleys of Piura and Chira, according to a census made for Archbishop Loaysa, supported a population of 193,000, and a simple restoration of the irrigation works would quadruple the productive power of the land. The same remark applies to nearly all the coast valleys of Peru. The habitable and cultivable area on the coast was remarkably increased at that time, and in some places these works remarkably increased at that time, and in some places these works of the Incas are, even to-day, kept in repair.

MARVELOUS RECLAMATION PROJECTS OF THE AZTECS.

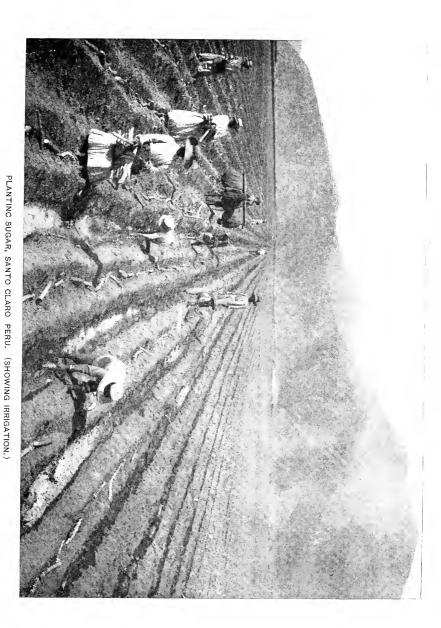
Coming to the Northern Continent, we find again marvelous evidences of reclamation work. The Aztecs had a most complete and well-arranged system of irrigation. They used water from the mountain streams and had a knowledge of dike building; they surrounded their fields with hedges of stone, and directed canals through them. They showed also good judgment in the management of their ground. When it was exhausted it was permitted to lie fallow, and its extreme dryness was relieved by canals, with which the land was irrigated. To prevent this dryness there were severe penalties against destruction of woods, with which the country was well covered before the Conquest. Around the city of Mexico the district was checkered with patches of Indian corn and plantations of cacao which required constant irrigation. The water was supplied from numerous canals and reservoirs intersecting these fields so that the country could not be traversed without great difficulty by Cortes's horsemen. These irrigation canals nearly proved the ruin of the Spanish Army. The wide plain around Cholulo, at an elevation of 6,000 feet above the sea, was found by the conquerors to be cultivated, to use Cortes's own words, "for every hand's breadth." The soil everywhere—not an uncommon thing in the table-land—was irrigated by numerous canals and streams, and many of these irrigating canals can be found in use to-day in Mexico.

I have taken up in detail what has been accomplished in the past in Peru and Mexico because these two portions of Latin America show such distinct evidences of engineering skill on irrigation lines, although traces of similar works have been found in the other areas of the countries to the south of us.

LATIN AMERICA'S GREAT PRESENT PROGRESS IN IRRIGATION.

But what is Latin America doing to-day to solve this great problem which is attracting the attention of the entire world? Surely it is making great strides in this as in all other directions. Some of the Republics are so fortunately situated that the problem of irrigation is not yet a necessary one, because their areas are well blessed with abundant streams and sufficient rainfall. For the present their needs are fully met by the natural water supply of the cultivated fields. The questions of great, costly irrigating schemes have not come immediately before them. The rapid progress these countries are making, however, and the steady increase in population, will undoubtedly necessitate the same consideration of this problem which we are to-day giving it in the United States. The great majority of our sister nations are reaching practical solutions of the demands of the agriculturists.

A moment ago I spoke of what had been done by the Aztecs in ancient Mexico. Now let us consider what has been accomplished in modern Mexico, and what are some of the projects for the future in that country. Within a few hundred miles of Albuquerque there is to be found one of the most splendid examples of irrigation in



The cultivation of sugar has extended along the entire coast of Peru. In few countries are the climate and soil so propitions to the development of this industry. Under good cultivation these coastal lands yield from three to four short tons of sugar to the acre, a return which has not been surpassed in any part of the world. Irrigation works are being rapidly extended.

(Copyright—Photograph, Underwood & Underwood.)

the world. I refer, as you of course know, to the reclamation of the Nazas Valley. The great plain of northern Mexico embraces nearly the whole of the States of Chihuahua and Coahuila, being bounded east and west by the Sierras of the Pacific and Gulf coasts, respectively. It consists of two watersheds, that of the Rio Grande to the north and the so-called deserts of the Bolsón of Mapimí in the south. It is about 400 miles wide by 600 long, and maintains a general level of about 4,000 feet above the sea. The Bolsón of Mapimí has much the same formation as the basin of the Great Salt Lake. It receives the drainage of all the eastern slopes of the Durango Sierras and the western slopes of the Coahuila Ranges, but possesses no outlet. As a consequence the rivers run into broad, shallow lakes, whence the water is gradually lost by evaporation during the dry season. Of these rivers the largest is the Nazas, which has a course of nearly 300 miles from its source to where it is dispersed over the shallows, called on modern maps Lake Mayran. Sixty years ago the Nazas discharged its waters into a series of extensive lagoons, the present fertile laguna district of Durango and Coahuila. (Romero.)

FERTILE WILDERNESSES AWAITING WATER.

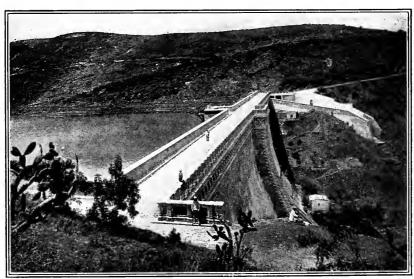
Later, long-continued rainfall caused the Nazas to open a new course and leave the Cayman lagoons 30 miles on one side. These lagoons were converted into a mesquite wilderness, almost dead level, composed of a deposit of the finest detritus. The central depression of this lake bed filled a broad valley running north and south. The area thus comprised was about 210 square miles of pure vegetable loam, locally known as the "Lake of Tlahualilo." This cuenca (or bowl) was the spot chosen, about 1892, for the establishment of a great irrigation enterprise.

It had been early determined that the lands left dry were of extraordinary fertility, and half a century ago these tracts immediately adjacent to the river had been brought under irrigation after the rough methods then practiced, so that already 250,000 acres of this land had been reclaimed and the region was producing the greatest part of the cotton grown in Mexico as well as heavy crops of corn and wheat (1890). The Tlahualilo basin was known to be the richest portion of the district, but the 30 miles of sun-baked desert separating it from the course of the river presented an obstacle to utilization. In 1889 a project was formulated for carrying a ditch across the intervening desert, and converting the whole area into a huge hacienda.

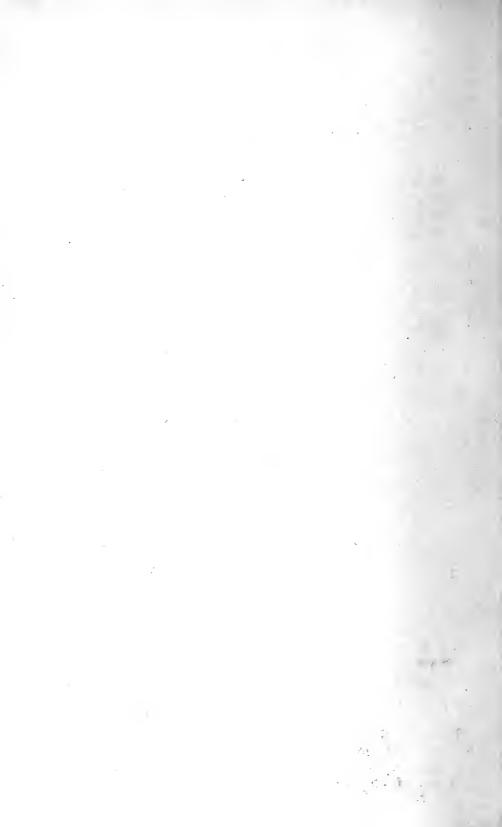
The lowest level of the basin was 100 feet below the point on the Nazas, which it was proposed to dam; the main canal would require a development of 39 miles; the slope of the land within the basin was such that 175 square miles out of the 210 composing the basin



LA PRESA DAM, SAN LUIS POTOSI, MEXICO.



WAITE—Copyright, 1908 Esperanza Dam, Guanajauto, Mexico.



could be irrigated. A dam was thrown across the river where it was 1,500 feet wide at flood. The main line of the canal, 39 miles long, terminated in a distributing tank at the entrance of the irrigable area where it bifurcated.

The rainfall in the Bolsón of Mapimí is confined to a few days of heavy showers in June and December, but in the mountains of Durango the rains are heavy and protracted, lasting for several weeks at a time. In the Tlahualilo basin, a week or ten days of irrigation is all that is needed for the cotton plants during the year, but corn and wheat must, of course, receive it at each planting. The distributing of the water is regulated by Government schedule; each property on the river is allotted its proportion of water and each canal is permitted to take as many irrigations as it desires during the season of high water, but in strict rotation. Here is a project carried out at our very door, at a cost of several millions of dollars. The production of cotton alone, in the year 1907, was valued at over \$10,000,000, an increase of 800 per cent over the amount grown before the land was irrigated.

IRRIGATION WORK NEAR MEXICO CITY.

Another example of irrigation in Mexico warranting attention is that near the City of Mexico in the State of Hidalgo. In 1900 the drainage system of the Valley of Mexico was completed, and a company was formed to use for irrigation the waters discharged from the Cut of Tequisquiac, by turning them into the Rio Salado, conducting them finally to the Tlamaco Dam. Here is constructed a canal 14 miles long, at the end of which there is a fall sufficient to furnish 2,000 horsepower for electrical purposes. Another canal about 2 miles long follows, which is finally divided into three subsidiary canals. This permits irrigation to an area of about 45,000 acres, The company has established a maximum fee of about \$3 gold per acre per year, but for estates of more than 200 acres the payment is proportionately reduced. As was natural, the value of the land receiving the benefits of irrigation has noticeably increased; land that sold before at \$5 to \$10 an acre is bringing to-day \$75 and \$100. So great has been the advantage that the income of the Government of the State of Hidalgo has been augmented considerably, without a per capita increase of taxation.

SUMMARY OF VARIOUS MEXICAN PROJECTS.

In Mexico the Government sometimes undertakes irrigation projects, sometimes grants permits to private associations or individuals, but control of the waters and prices is retained in Government hands. Instances of what has already been accomplished in the various

States may be briefly given. In Sinaloa a modern irrigation plant furnishes water to 88,000 acres. In Puebla 15 square miles have recently been brought under irrigation at a cost of \$100,000. In Guerrero irrigation works have been completed at a cost of \$150,000. Chihuahua, Señor Creel, the distinguished Mexican Ambassador to the United States, and Governor of the State of Chihuahua, is irrigating one farm of 6,000 acres; Colonel Green and his company are planning large irrigation systems, and it has been estimated that 500,000 acres are thus served. In Durango a company has recently received permission to use the waters of the Palmillas River. In Chiapas the National Secretary of Colonization and Industry has given permission to use the waters of the River Canalejo, supplying 1,000 gallons (4,000 liters) a second, for irrigation. In Nuevo Leon, east of Monterey, there is an irrigation system with a reservoir to hold 250,000,000 gallons of water, which flows through 6 miles of pipe. The Agricultural Board of Jalisco offers prizes for wells and for plans for the increased use of water, and releases from taxation irrigation plants and machinery to be used in developing such plants. This same encouragement is offered in many instances by the National Government. In many of the other States of Mexico vast schemes are under way for irrigating the land, but those which I have taken up may be considered as illustrative ones.

RECLAMATION PLANS IN OTHER LATIN AMERICAN REPUBLICS.

If modern Mexico shows such progress, it is equally true that Peru, Chile, Argentina, Brazil, and, to some extent, the other sections of Latin America are in the van.

Let us consider first the Republic of Peru, where many recent important irrigation works have been successfully carried out. Worthy of mention is a plant in the Valley of Nasca which, through the restoration of an ancient canal of the Incas 30 miles long, fertilizes 25,000 acres of land. Thirty-five thousand acres have been reclaimed from barrenness in the Valley of Lomas. In the Valley of Chira there are 77,000 acres of tillable land, 16,000 of which are now under cultivation. An area very much larger will be brought into use by repairing one of the ancient canals. In the Department of Piura an area of from 50,000 to 60,000 acres has been surveyed, and already 15,000 acres are irrigated. A contract, it is reported, has been entered into with a cotton planter for irrigating 30,000 acres. In the Department of Lima, the arid lands of Noco are being irrigated. An interesting result has been obtained at the port of Mollendo. Water from the aqueduct of Uchumayo, built in 1870 for the use of the railway to Arequipa, has been partly diverted for irrigating purposes. The cost of these works was about \$1,300,000. The aqueduct has a length of 873 miles, divided into 14 sections with intermediate

reservoirs; in Mollendo there are two other tanks from which the water is immediately distributed. In a recent report of the Minister of Public Works of Peru, mention is made of a newly organized section under this ministry to study the problems of irrigation on the west coast. The River Rimac, near Lima, the capital of Peru, is at present used to irrigate seven valleys with about 60,000 acres of land.

The Peruvian Government has, during the past few years, been employing experts from the United States Geological Survey and the Reclamation Service testing the possibilities of irrigation in the Republic. As a result of these investigations, it is estimated that approximately 2,500,000 acres of the Peruvian coast region are susceptible of irrigation, of which between 800,000 and 1,000,000 acres



CHICAMITA CANAL, PERU.

The cultivable lands on the coast of Peru exceed 49,000,000 acres, but on account of the lack of water only about 3 per cent of this acreage is under cultivation. Peruvian capitalists are building irrigating canals through these coastal lands, which will naturally bring about a complete transformation of this zone.

are in the valley districts. As Peru's leading crops—sugar, cotton, and rice—are all irrigation crops, it can be seen how energetic the Government has been in this undertaking.

MILLIONS OF IRRIGATED ACRES IN THE ARGENTINE REPUBLIC.

In the Argentine Republic one of the most interesting examples of irrigation is furnished in the city and neighborhood of Mendoza. This lies at the foot of the Andes and was undoubtedly occupied by the aborigines long before the Spaniards came. Mendoza stands in the center of an extremely fertile stretch of territory, but the verdure

of the city and surrounding country is due to the ingenuity of man. When the system of irrigation was begun is not known, but for the last twenty years the scheme of irrigation has been thoroughly regulated. The rivers Mendoza and Tunuyan have been dammed at great expense by the Irrigation Department of the Government. About 1,100 miles of canals are utilized, and the irrigated surface measures 1,000 square miles (640,000 acres). This is the great wine district of the Argentine Republic, and without irrigation the industry could not thrive.

not thrive.

San Juan, north of Mendoza, has splendid irrigation works, dating from 1858. The city of Cordova, east of San Juan, is famous for the system of irrigation within the town itself and through the surrounding country. The Dique San Roque (dam) of the Rio Primero furnishes water for many leagues in the neighborhood and is the largest of the kind in South America, if not actually in the world. The lake created by the dam holds 260,000,000 cubic meters of water (over 68,000,000,000 gallons), which are distributed over 360 square miles (230,400 acres). This irrigation system ran into millions of dollars for construction, and is noted among engineers for the results accomplished. The Argentine Government maintains a service of irrigation in the Department of Public Works with a pay roll amounting to \$156,780 a year. I wish I could devote more attention to the accomplishments in the Argentine Republic, but there is not time nor space.

CHILEAN RECLAMATION AND IRRIGATION WORK.

I should like to explain in detail the irrigation and forestry service proposed by the Government of Chile, but I shall confine myself to some general observations. Irrigation was practiced by the original inhabitants of Chile and the remains of their aqueducts show extraordinary enterprise and skill. With the intensive agriculture of to-day, indeed, irrigation is a necessary factor of the success secured by the farmers and wine growers of the country. In the great central valley of the Republic, southward from Santiago, there are many illustrations of irrigation systems in operation, and projects for new plants are constantly maturing. Each section of the valley is a drained lake, the bed of which is being continually enriched by the alluvial deposits of the mountain torrents. The water from all these lakes and rivers is used to fertilize the land and turn the mills. Where there is no water from such sources the land is barren, and in passing through this central valley therefore from time to time are seen great expanses of arid, virgin land: but where water can be obtained, and where the rivers bring down natural fertilizing matter from the mountains, some of the richest land in Chile is the result.

Fifty million cubic meters of material were used in the construction of this dam, which represses 260,000,000 cubic meters of water and irrigates 280,000 acres. The dam cost \$1,320,000 in gold.

The irrigation system is excellent, the water provided is abundant, and the vegetation therefore is luxuriant and varied. Each farmer or hacendado is a subscriber to an irrigation canal, constructed at considerable expense and regulated by carefully elaborated laws. A canal is divided into so many regadores, a regador being an outlet through which 35 liters (9 gallons) of water can pass per second. Each farmer can have all the water he subscribes for distributed at his pleasure and at the cost of the company. At the Normal Agricultural Schools of the Government, of which Chile maintains several, courses on irrigation are offered in quite the same way that viniculture and fertilization are studied.

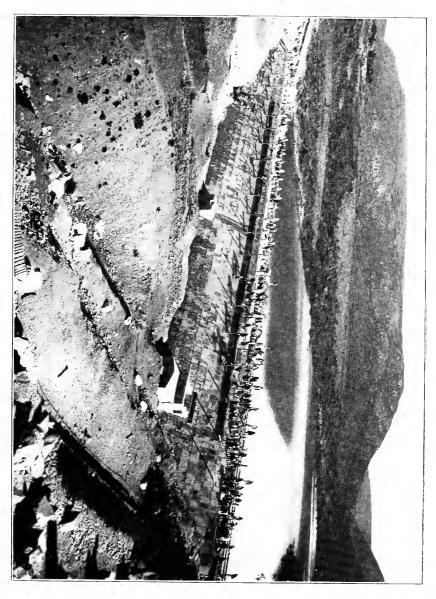
WHAT BRAZIL IS NOW ACCOMPLISHING.

I must mention briefly something of what has been undertaken in the largest of the South American Republics, Brazil. The Commission of Engineers in charge of irrigation works is investigating different river beds in the regions affected by drought in the States of Ceara and Rio Grande do Norte with a view to constructing reservoirs. The work of clearing the bed of the Maxaranguape has already been begun, and it is proposed also to construct dams at Carubas and Angicos. The Commission has planned the construction of a dam at Santa Anna do Pão dos Ferros, which is about 338 miles from Natal. This is an important work. The dam to be built is 10 meters high, and the reservoir will be able to withstand three successive years of drought. Many of the large coffee plantations in the States of São Paulo and Rio de Janeiro are under irrigation, but this has been a matter rather of private enterprise than of National or State initiative. Of course these are only a few illustrations of what is going on in Brazil looking to its proper irrigation. The mighty streams of Brazil have in them ample water for irrigation purposes, and wherever irrigation may be needed it will be only a question of simple control of this supply.

OTHER COUNTRIES IN LATIN AMERICA.

Other countries, like Uruguay and Paraguay, are so well watered that there has been no great call for artificial irrigation. In the mountain countries, however, the rainfall may be great, but the valleys sometimes need water during the dry season, and consequently the problem of irrigation becomes a practical one.

In Ecuador, the Minister of the Interior and Public Works is very active in encouraging all plans for the extension of modern agricultural methods wherever applicable. The water supply of the cities, at present a vital problem, is receiving particular attention,



IRRIGATION DAM NEAR IRAPUATO, STATE OF GUANAJAUTO, MEXICO.



but hand in hand with this goes the use of water for irrigation purposes, and careful study is given to the latter as well as to the former. Near Quito new drain and irrigation pipes have been laid at considerable expense, and in the Province of "El Oro" noticeable progress has been made on the rivers Caluburo, Buenavista, and Pital.

The traveler in Colombia and Venezuela can not fail to notice the verdure of the landscape at all seasons of the year, although the roads may often be uncomfortably dusty during the dry season. Natural water supply and drainage account for much of this perpetual green, but irrigation by trenches has been practiced for generations. If nature is kind, man has not forgotten this kindness, and he takes advantage of every means to supplement it by the simpler methods of irrigation. In a recent report the Minister of the Treasury of Colombia notes the abundance of water in the cultivated areas, but he also gives careful attention to drainage and irrigation, noticing especially a project to combine the two along the great highway of Cambao.

The area of Bolivia is wonderfully diversified. The mountain regions are dry, rocky, and often sterile, but the plateaus to the east and north contain some of the richest land in South America. Here everything will grow, but there are valleys between the mountain peaks where crops and herds could be much increased if water were more abundant or better preserved. The study of these higher valleys has been carefully undertaken within the last two years by the Minister of Colonization and Agriculture, with gratifying results. In this case the Government is decidedly in advance of present demands, for the soil needs agriculturists to till it quite as much as water to nourish it. When, therefore, colonization shall have filled the unoccupied spaces Bolivia will have plans ready to make fertile by irrigation all land settled by the farmer.

Enterprises of this kind are not confined to the larger countries to which I have called your attention. For instance, the Dominican Republic, appreciating the value of irrigation, and the increased income both to the agriculturist and the Government, has recently made an appropriation for irrigating the Monte Cristi District, and the Public Treasury has appropriated annually the sum of \$75,000, which is to be expended according to the plans prepared for this purpose by the Ministry of Promotion and Public Works. The Executive power is authorized at the same time to use all means within its reach to hasten the realization of this important work.

I must mention the fact that Porto Rico—and in many senses of the word this island is part of Latin America—has inaugurated a magnificent irrigation programme. The sum of \$4,000,000 was within the last few days appropriated by the Legislature in special session.

SOME GREAT FACTS ABOUT LATIN AMERICA.

In conclusion, let me mention a few general facts about our sister American nations which are primary in their nature and yet not generally recognized by the average citizen of the United States. All America, including the United States and excluding Canada, which is not a republic, covers an area approximately of 12,000,000 square miles, of which Latin America occupies nearly 9,000,000, or three-fourths. The total population of the same Pan-America is 160,000,000, of which 70,000,000 or almost half, live in Latin America. The total average foreign commerce, exports and imports, of Pan-America is \$5,000,000,000, of which the share of our little appreciated sister nations is over \$2,000,000,000, or considerably more than one-third. Last year the foreign commerce of the Argentine Republic reached nearly \$600,000,000. Buenos Aires, the capital of the Argentine Republic, has a population of 1,200,000 and is growing faster than any city in the United States after New York and Chi-Rio Janeiro, the metropolis of Brazil, has nearly reached the 1.000.000 mark, while the total area of Brazil exceeds the connected area of the United States by sufficient square miles to have room almost for Germany in addition. Out of the Amazon River every day flows four times as much water as out of our mighty Mississippi. And so I might go on telling of this southern wonderland of Latin America, but I will stop here and ask you to place yourselves in touch with my office in Washington, the International Bureau of American Republics, if you care to learn the details of the story, together with pamphlets, maps, and books which will prove that I have not exaggerated one iota.



SOUTH AMERICAN EXPORTS TO THE UNITED STATES

N foreign exports the United States occupies a position intermediate to the countries of western Europe on the one hand and the South American Republics on the other, with a constant and rapid approach to the European position. It marks the middle ground between foreign trade founded on exploitation of natural resources and foreign trade resulting from highly specialized manufacturing effort.



ALPACAS, PERU.

The wool of the alpaca is nearly a foot long, soft, and fine as silk. The great bulk of the production, in value between three and four million dollars, is exported. Very little goes to the United States.

South America, the United States, and western Europe represent in the immediate present three steps in the world's industrial progress, which in concrete is the progress of each particular nation of the world. In a new country, such as America was for more than three hundred years after its discovery, and such as the overwhelmingly greater portion of it yet is, industry must of necessity first concern itself with the land and the immediate products of the land. As population and capital increase, more diversified industries come into being. The tendency and the desire of every country is to attain an industrial position where it is the sole consumer of its own raw products, which, through its own industries and its own factories, are converted into articles of necessity or luxury for the rest of the world. To attain this end, population and industrial capital are necessary, and to obtain this each country must begin as every country in America, from Canada to the Argentine Republic, has begun—by first exploiting natural resources for the use of foreign countries.

Population and capital have marvelously increased on the American continent within the last one hundred years, and this increase is the direct and consequential result of the immense quantities of cotton, wheat, wool, lumber, beef, hides, oil, cacao, asphaltum, rubber, nitrate, gold, silver, iron, copper, coffee, and sugar which the New World has produced and sold at a profit to the Old World. For America, as a whole, foreign export trade means a trade in food

products and raw, or but slightly manufactured, material.

The one exception to this rule is the United States, wherein the foreign trade is assuming a different character, and where, with much of similitude, there is an important difference between its industrial position and that of South America in this, that whereas the former is approaching the limit of its capacity to produce raw material, the latter is an almost virgin field, whose possibilities are so immense as now to appear almost unlimited. In addition, the United States is constantly consuming a larger and larger proportion of its own raw material and food products in home consumption. In other words, its surplus will constantly decrease, while in South America the surplus will constantly increase.

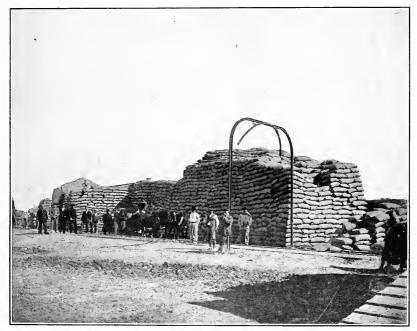
Every country naturally, and by force of circumstances, engages in that kind of trade which at the time is most profitable to it. It devotes its energy and its capital to what produces immediately the greatest returns. In a new country this always means the exploitation of natural resources. So long as this field remains open and profitable, to it will be directed the principal efforts and the bulk of the capital of a people. Only when the accumulated capital has become sufficient for the purpose, and the pressure of an increasing population so great as to demand other fields of labor, or when the limit of productive capacity is reached, is it found profitable to direct the new capital and the new energy into other channels.

This period may be long or short, mainly due to the climate, area, and quantum of natural resources of a country. In the North Atlantic portion of the United States it was comparatively short; in the

vast area of Brazil, Bolivia, Peru, Colombia, or the Argentine Republic, with the almost unlimited natural resources of these countries, it will be long.

South America is the world's great storehouse of natural produce which, to develop and make available, will require a capital greater than the accumulated savings of the world and a population at least ten times greater than it now has.

Its industrial progress for the fifty or sixty years following freedom from European political control was comparatively slow, and offers a striking contrast to the rapid progress made by the United States during the same period.



WHEAT AWAITING TRANSPORTATION, ARGENTINE REPUBLIC

The production of wheat in the Republic is about five and a half million tons a year, of which over four million tons are exported, mostly to Europe.

European, and to some extent American, writers have been accustomed to ascribe this more or less backwardness of the South American Republics to a defect in Latin-American character and to unstable political conditions. Lack of a sustained purpose and revolutions were the reasons given why in wealth and population South America was so far outstripped by the United States.

This view is unsound and is founded in false premises. North Americans and Europeans who are acquainted with such cities as Buenos Aires, Rio de Janeiro, and Santiago, and who form their opinions at first hand by observation, find no essential differences in industrial capacity, energy, initiative, or even "bullheadedness," if that be a merit, between the business men of these cities and those of London, Paris, or New York; and the immense and rapid progress in wealth, industries, and population of these and other South American cities, within the last fifteen or twenty years, proves conclusively that no such differences do exist. Rio de Janeiro with nearly a million, and Buenos Aires with over a million population, have within this short period grown with a rapidity outstripping, if possible, the phenomenal growth of some of the cities of the United States.

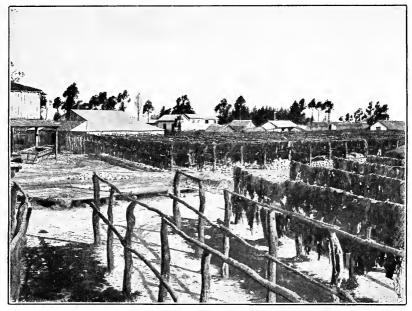
As regards revolutions, there has been much misstatement and distortion of actual facts. Small disturbances which elsewhere scarcely would be dignified with the name of riots are set down as revolutions. As said by a distinguished South American diplomat at the Trans-Mississippi Commercial Congress in Kansas City, "When a drunken soldier discharges his rifle or emits a subversive yell, lo! on the instant the cable communicates to the whole world—revolution in South America! The press makes merry in painting our countries under the most ridiculous phases. On the stage a hundred generals march out in command of a single private, and this is called a South American Army."

The truth is that for the last half century South America, compared with the rest of the civilized world, has enjoyed more than its proportionate share of peace. There are ten independent Republics, comprising, with the Guianas, the whole of the continent. As against these ten it would be difficult, if not impossible, to place ten other countries in which there has not been for the last fifty years, or even from the date of South American independence, say 1820, more of war and revolution. Look at the map of Europe as it was in 1850 and as it is to-day. With the exception of the British Islands and the Scandinavian and Iberian peninsulas, the political lines of Europe have been recast so as to render the whole picture unrecognizable. This is the result of war and revolution in the oldest, most civilized, and presumably most stable section of the Aryan world. The political map of South America, with one exception, remains practically the same now as it was at the date of independence, and that exception, the dissolution of the greater Colombia into the three States of Venezuela, Colombia, and Ecuador, was accomplished without war or revolution. The failure of the South American Republics since their independence to attain that degree of growth in wealth and population attained by the United States since its entry into the family of nations is due not to any defect in Latin-American character or in any large measure to unstable political conditions, but to natural and economic causes.

First, the United States had the start by nearly forty years in the race for European surplus population and capital. This at a period

when the pressure of population in western Europe was beginning to be felt and demanding an outlet, and when the accumulation of capital was becoming sufficient to warrant foreign investment. For this immigration of men and capital the United States and South America were direct competitors. With the tide turned in its favor for a start of forty years, the United States was able to hold and to increase its first advantage.

Second, in this competition the United States enjoyed a second advantage in that it, like Europe, lies wholly within the Temperate Zone, while the bulk of South America is in the Torrid Zone. The prospective European immigrant would naturally seek that country

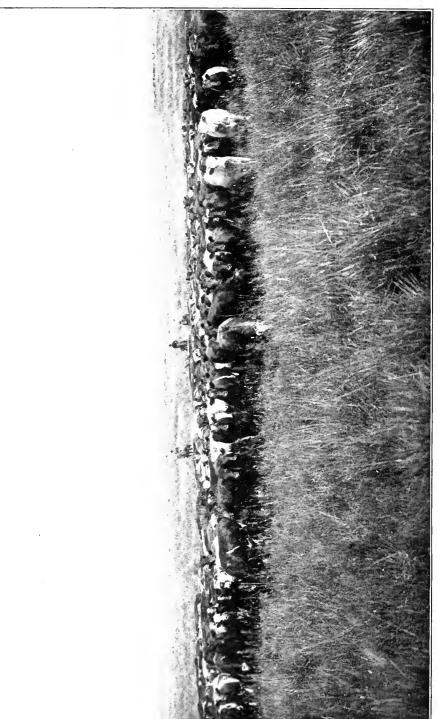


DRYING HIDES, ARGENTINE REPUBLIC.

The export of hides of cattle from the Argentine Republic is in value about twenty millions of dollars per annum, of which less than one-third goes to the United States.

where the climate, soil, and crops most nearly approached home conditions. South America, with the exception of the southern part, presented in climate, soil, and crops conditions more at variance with European conditions.

This rivalry has ceased. The tide of European emigration in men and capital has turned toward South America, and the United States takes on a new character in the industrial world. It is now a rival with Europe for both the South American export and import trade. It becomes the part of wisdom for it to recognize this changed position and to readjust its relations with South America. Both will be the gainers by the change, most of all South America, in that it loses



CATTLE ON THE PAMPA IN ARGENTINE REPUBLIC.

The provincial censuses show nearly 26,000,000 cattle in the Republic. The provinces showing the largest holdings are: Buenos Aires, 7,000,000; Corrientes, 6,000,000; Entre Rios, 3,000,000; Cordoba, 2,500,000, and Santa Fé, 2,500,000.

an industrial rival and gains an industrial feeder. But the gain is not entirely one-sided; the United States will profit not alone in what it sells to but also in what it buys from South America. As an industrial rival of Europe it must look after its future supply of raw material. It must be remembered that the gains from the trade in raw material may be as great or even greater to the country importing than to the country exporting.

To illustrate, take the position of England as to the cotton trade. It imports raw cotton to the value of about \$300,000,000, of which two-thirds is from the United States. After supplying its own needs, and it is the largest domestic consumer of cotton among the nations of Europe, it exports in cotton yarn and manufactures goods to the

value at the place of shipment of over \$500,000,000:

As a storehouse of raw material South America is unrivaled. To develop this storehouse through labor and capital means the industrial progress of the ten Republics, and it also means the industrial advantage of the country supplying the capital and handling the produce of this development.

It has been a cause of more or less complaint by certain North American writers that the United States occupies the position of buying more from South America than it sells to it. This is a short-sighted and mistaken view of the situation.

sighted and mistaken view of the situation.

Europe has in the past occupied the same position toward the United States that the United States now occupies toward South America, and Europe has not failed to profit by the situation. The exports from the United States to South America are of manufactured goods, and its imports from the same section is in raw material and food products. If there is one element more than another entering into relations between the United States and South America, upon which the former should be congratulated, it is the fact that it has already acquired so large a share in exports from South America. From the standpoint of the United States it is of course to be regretted that its share of the imports into South America is not greater than it is, but this regret should not be coupled with any wish to limit or curtail its share in the exports from South America. Its future industrial conflict with Europe is not only in supplying the world with manufactures, but also in securing the raw material from which these manufactures are made. The position is a new one.

Outside of food products, of which coffee to the value of about seventy millions and cacao to the value of five millions are the chief, the principal imports of the United States from South America are rubber, hides, skins, bones, horns, hoofs, tanning material, nitrate of soda, copper, cabinet woods, vegetable ivory, and asphaltum.

Their values are: Rubber, thirty-five millions, 60 per cent of the total imports; goatskins and hides of cattle, fourteen millions, 26 per

cent; bones, horns, etc., one million, 30 per cent; tanning barks and extracts, over one million, 80 per cent; nitrate of soda, fourteen millions, 100 per cent; copper, over five millions, 11 per cent; cabinet woods, two hundred and fifty thousand, one-half of 1 per cent; vegetable ivory, four hundred thousand, 85 per cent; asphaltum, nearly two hundred thousand, 40 per cent.

This list is not imposing either in length or in amounts, but it tells the tale of the beginning of what is destined to become a great industry in the United States, in fact the industry upon which the future wealth and commercial importance of the country must depend, an export trade in goods manufactured from imported crude



CATTLE IN COLOMBIA.

The production of cattle is one of the growing industries of Colombia. A recent reduction in the export duty from \$3 to \$1 per head is having a beneficial effect on the trade.

material. Already the United States has reached the point where it imports, of some of these products, an amount greater than it needs for home consumption, great as this is, and is exporting the surplus as a finished product. For example, it imports crude rubber to the value of sixty millions, 60 per cent from South America, and an additional 6 per cent from Mexico and Central Mexico. After supplying its own needs for home consumption, which exceeds by double the need of any other country in the world, it exports, in finished and partly finished rubber products, to the amount of seven and one-half million dollars.

The manufacturers of the United States are familiar with the fiber plants and textile grasses of Europe, Asia, and North America. They import of Manila hemp eleven millions, of Mexican sisal fifteen millions, and of British Indian jute eight millions of dollars in value yearly. In addition Italy and Russia furnish hemp; Great Britain, Russia, Belgium, and the Netherlands flax; Mexico istle; Germany, Great Britain, the West Indies, the Dutch East Indies, New Zealand and Africa furnish other varieties of fibers and textile grasses, all to the value of millions of dollars, imported into the United States. From this import there has been built up a large foreign export trade in fabrics, bags, cordage, and twine. South American fibers and textile grasses are practically unknown to the manufacturers of the United States, the one exception being Peruvian cotton, of which from three to four million pounds are annually imported. With this exception, the value of all varieties imported for five years is as follows: 1903, \$86; 1904, \$5,615; 1905, \$2,300; 1906, \$7,255; 1907, \$2,033. This is an average of \$3,458 a year. Brazil or Venezuela either might supply an amount greater than this daily and then not equal one-tenth of the import of sisal grass from Mexico.



HARVESTING IN THE ARGENTINE REPUBLIC.

A SOCIAL FUNCTION IN HONOR OF LATIN AMERICA :: :: :: ::

The Latin-American Delegates to the Tuberculosis Congress were the guests of the Director of the International Bureau of American Republics at dinner in the New Willard Hotel, on September 25, 1908.

The object of the dinner was to welcome to Washington such members of the Tuberculosis Congress as were then in the city representing Latin-American countries, to make them acquainted with one another and with some of the higher officials of the Department of State, the Latin-American diplomatic corps, and other distinguished gentlemen.

The Director of the Bureau was to leave on the 26th to attend the National Irrigation Congress to be held in Albuquerque, New Mexico, where he will read a paper on "Irrigation and Reclamation of Land in Latin America," and make other addresses on Latin America at the Chamber of Commerce of Los Angeles, California; the Trans-Mississippi Commercial Congress, San Francisco, California; the California State University, Berkeley, California; the Chamber of Commerce of Portland, Oregon, and that of Seattle, Washington, and the Publicity Club of Minneapolis, Minnesota. It was not possible for him to postpone the date when he could welcome all of the Latin-American representatives, on behalf of the International Bureau of American Republics, as the Tuberculosis Congress will have adjourned before his return.

The delegations at the dinner were represented as follows: Dr. Eduardo Liceaga, President of the Supreme Board of Health of Mexico, Chairman of the Mexican delegation; Dr. Fermin Rodriguez, Jr., Delegate from the Argentine Republic; Dr. J. J. Ulloa, Delegate from Costa Rica; Maj. J. R. Kean, Chairman of the Cuban delegation; Dr. Fernando Rensoli, Cuban Delegate; Dr. Charles W. Richardson, Chairman of the delegation from Ecuador; Dr. Ramon Bengoechea, Delegate from Guatemala; Dr. D. Vergara Lopez, Delegate from Mexico. The Department of State was represented by Mr. A. A. Adee, Acting Secretary of State, and Mr. Huntington Wilson, Third Assistant Secretary. The Latin-American diplomats present at the dinner were Señor Don Joaquin Bernardo Calvo, Minister of Costa Rica; Señor Don Epifanio Portela, Minister of Argentina; Señor Don Luis Toledo Herrarte, Minister of Guate-

Director Pan-American Bureau. JOHN BARRETT, Minister of Costa Rica. SR. DON J. B. CALVO,

Sec'y-Gen'l Tuberculosis Congress. DR. JOHN S. FULTON,

Mexican Delegate.

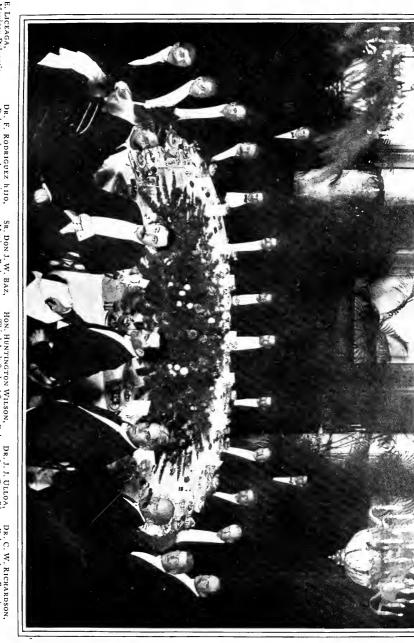
SR. DON A. PADRO Y ALMEIDA, SR. DON F. J. YANES, SUKUEUN-ULBERAL TITLES, Acting Secretary of State.

Charge d'Affairs, of Cuba. Sec'y Pan-American Bureau. Public Health and Marine Hospital Service. Acting Secretary of State.

SR. DON E. PORTELA. DR. R. BENGOECHEA,

Polication from Contemps Cuban Delegate. Minister from Argentina.

Delegate from Guatemala

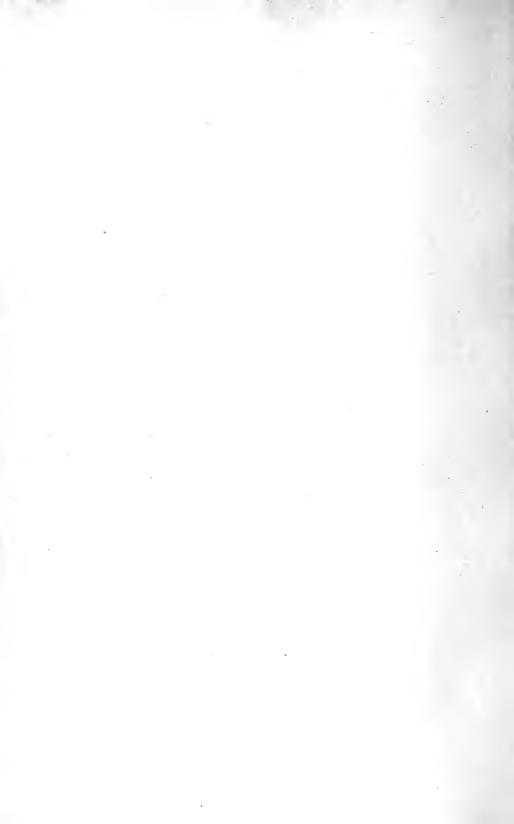


Chairman Mexican Delegation. DR. E. LICEAGA, DR. L. TOLEDO HERRARTE, Minister of Guatemala.

DR. F. RODRIGUEZ hijo, Delegate from Argentina.

Sr. Don J. W. BAZ, Mexican Embassy.

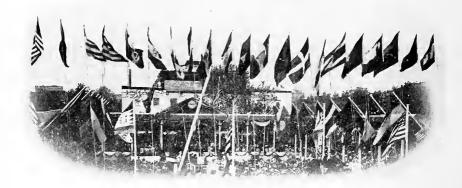
Third Ass't Sec'y of State. Delegate from Soxa Rica. K. E.A.N. M. Aloga J. R. K. E.A.N. M. Chairman, Cuban Delegation.



mala; Señor Don Arturo Padro y Alameida, Chargé d'Affaires of Cuba; and Mr. J. W. Baz, Secretary of the Mexican Embassy. Surg. Gen. Walter Wyman, Public Health and Marine-Hospital Service, Dr. J. S. Fulton, Secretary-General of the Tuberculosis Congress, and Señor Don Francis co J. Yanes, Secretary of the International Bureau of the American Republics, were also present.

At the proper moment the health of the Presidents of all the countries of the three Americas, proposed by the Director of the Bureau. was drunk standing. Director Barrett then spoke a few words of welcome to the Delegates on behalf of the International Bureau, and introduced Doctor Fulton, the Secretary-General of the Congress, who also welcomed the Delegates and stated that because of the increasing knowledge in the United States of the Latin-American countries and its scientific men, due in a great measure to the efforts of the International Bureau of American Republics, Spanish had been made one of the official languages of the Conference. Doctor LICEAGA, of Mexico, in a felicitous speech of thanks, replied on behalf of the Latin-American Delegates, and also paid a highly gratifying tribute to the International Bureau and the work it has accomplished in the lofty task of making all America one common home, one common motherland. Other speakers were Mr. Adee, Acting Secretary of State, who also extended a warm welcome to the Delegates, and wished them success in their noble and humanitarian mission. Señor Calvo, the Costa Rican Minister; Señor Portela, the Argentine Minister, and Doctor Toledo Herrarte, Guatemalan Minister, all were happy in their remarks in reference to the great event and the hopes entertained for the success of the Congress. Surgeon-General WYMAN spoke of the wonderful work on sanitation done in Mexico. mainly through the untiring efforts of Doctor Liceaga, and of the greater significance of the work of the Bureau. Doctor RICHARDSON, Chairman of the delegation for Ecuador, and Doctor Rensoli, of the Cuban delegation, showed their enthusiasm for the work to be undertaken, and their keen appreciation of the necessity of fighting the ravages of the white plague relentlessly.





ARGENTINE REPUBLIC.

HE national banner of the Argentine Republic consists of two kinds, the first being known as the "war banner" and the second as the "bandera menor," or the flag of peace and commerce. The former is distinguished from the latter in having a golden or yellow representation of the sun in the center of its field; otherwise both flags are identical, and each is so arranged that it contains three horizontal stripes, the first and third being blue, while the second, or central, one is white.

A halo of romance and singular dramatic interest is attached to the history and origin of the Argentine national banner. It was invented by Gen. Manuel Belgrano in 1812, and received, the following year, its baptism of fire and blood when Belgrano won a brilliant victory over the Spaniards on the 20th of February, 1813. The Congress of Tucuman formally recognized it as the official standard of the new Argentine Commonwealth, then officially designated as "The United Provinces of the Rio de la Plata."

The standard of the Argentine Republic is something more than merely the national flag of the Republic; it is associated, in a large measure, with the glories of Latin America, for, under the consum-

mate leadership of the two liberators, Gen. San Martín and General Belgrano, it was destined to wave over Argentine armies that bore freedom and enlightenment over the towering snow-covered Cordillera of the Andes into Bolivia and Chile, and thence northward into tropical Peru and Ecuador.

The Argentine colors, sky blue and white, may be traced back, according to tradition, to the medieval times of Spain, when, during the battle of Roncesvalles, a singular duel occured between a Biscayan soldier and a French color bearer carrying a flag with two blue stripes and one white. The former slew his opponent, and on account of his achievement received the title of "Aspiazu."

Dismissing this quaint legend for what it is worth, there can be no doubt that the British invasion of the Rio de la Plata region, or what is now known as "Argentina," in 1806 and 1807, and the subsequent and unexpected success of the people of Buenos Aires, through their own unaided efforts, in routing an army of over 6,000 seasoned British veterans and compelling them to capitulate, in spite of the support of a powerful fleet (July 6, 1807), had considerable influence in inducing the Argentines to adopt blue and white as their national colors. This glorious "Reconquest," besides cultivating self-reliance and a national spirit, caused a large amount of the spoils of war to fall into the hands of the native Argentine militia, and among this booty was a large quantity of blue and white cloth. The various Hispano-American corps which fought against the British wore generally blue and white uniforms. Most potent, however, of all the causes that led to the final adoption of these colors as those of the new-born Argentine Republic (at first officially designated as "The United Provinces of the Rio de la Plata") was the fact that during the popular commotion and excitement on the memorable 25th of May, 1810, when the last Spanish Viceroy, CISNEROS, was still hesitating about bowing to the will of the people of Buenos Aires and resigning his power, one of the popular leaders whose name was French entered a store and secured a quantity of white and blue ribbons which he began distributing among his followers. This was really a brilliant idea, these colors having become extremely popular since the repelling of the British invasion of 1807, as the crack native Argentine regiment, known as the "Patricios," or "Patricians," wore blue and white uniforms.

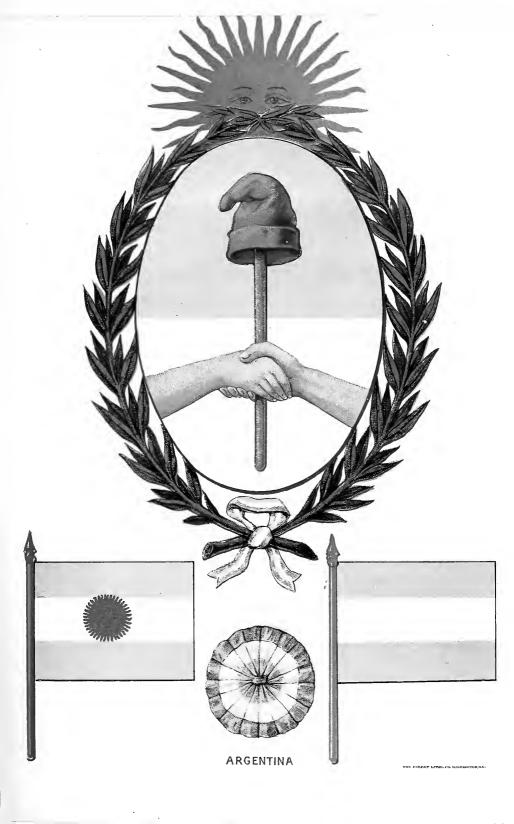
The entire 45,000 inhabitants of Buenos Aires were now fired with enthusiasm, and the Marquis Cisneros, yielding to the inevitable, resigned the power of Spain into the hands of the new provisional Argentine Republican Government. Since that time, in song, poem, and story, in peace and war, the beautiful Argentine blue and white national flag has waved triumphantly, and the centennial of its birth will be celebrated at the opening of the great Argentine Educational Exposition, on the 25th of May, 1910.

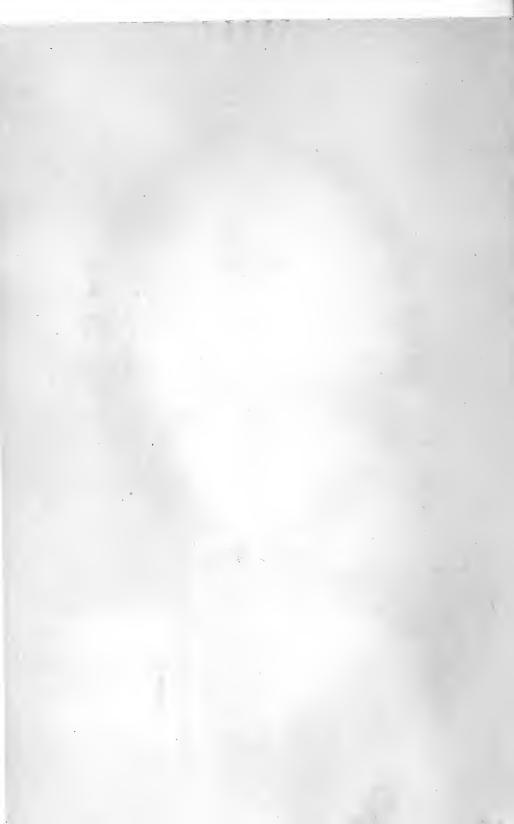
The national shield or coat of arms of the Argentine Republic, as officially recognized by President Alcorta's decree dated May 24, 1907, may be described as follows: Its essential principle is that-of an ellipse, divided into two halves by the horizontal diameter of the The field of the upper half is sky blue, and that of the lower is white. In the center of the upper section there is a carmine red liberty cap, which is supported by a vertical golden staff, the latter being so arranged that one-third of its length lies in the upper or blue field, while the remaining two-thirds are in the lower or white field. The staff is supported, in its lower extremity, by two clasped hands and arms, which are at an inclination of 45°, and are of natural flesh tint. The circumference of the ellipse is completely enveloped by a crown of two intertwined laurel branches, whose foliage is painted olive green. At the very apex or zenith of the ellipse there is the representation of a golden sun, with two eyes, and undulating rays of yellow and brown hues. The lower extremities of the laurel crown are tied together by a bow of sky-blue ribbon.

According to the researches of Doctor Zeballos, of Buenos Aires, the details of the Argentine coat of arms may be traced back to the remotest antiquity. As an emblem of power the sun was depicted by the ancient Egyptians on their monuments and in their state records. The two clasped hands denote fraternity and union, while the liberty cap was worn in Greece and Rome by a slave when his master emancipated him and declared him a freedman. It thus became, in the course of time, the emblem of liberty in general, and, as it were, the inspiring standard of freedom in the servile insurrections of antiquity.

A close study of the heraldic arms of the leading families of Spanish nobility proves that the essential design of the Argentine national shield may be traced back to the remotest epoch of medieval Spain. It was, therefore, perfectly natural, when the first Spanish conquerors undertoook to colonize the La Plata or Argentine territory, that they should take pride in displaying their traditional heraldic shields upon every available occasion. There are, to this day, many Argentine families of the highest aristocratic Spanish descent whose ancestral coats of arms closely resemble the national shield of the Argentine Republic.

The circumstances leading to the adoption of the present Argentine national shield are of historic and romantic interest. The colors, blue and white, were adopted, tacitly, as those of the new Argentine flag when, in 1810 (May 25), the people of Buenos Aires deposed the last Spanish Viceroy, established a provisional republican junta or directory, and inaugurated Argentina's heroic and eventful struggle for independence against the might of Spain. The new banner was consecrated in a baptism of fire and blood when Gen. Manuel Belgrano won a brilliant victory over the Spaniards at Salta, on the 20th of February, 1813. A little over three years later the famous Con-





gress of Tucuman, which, on the 9th of July, 1816, had issued the Argentine stirring declaration of independence, enacted on the 25th of that month, a law formally recognizing and sanctioning Belgrano's flag as the national standard of Argentina.

The essential features of the Argentine coat of arms were, however, not fully elaborated until January, 1817, when the patriotic ladies of Mendoza City, which lies at the foot of the eastern, or Argentine, slope of the towering Chilo-Argentine Cordillera, decided to present to their distinguished compatriot, Gen. Don José de San Martín, a splendid banner, called "The Banner of the Sun," just as this celebrated South American liberator was preparing to conduct a thoroughly equipped and disciplined expedition of 5,000 Argentines and Chileans westward across the forbidding, snow-covered, lofty, and almost impassable Andes, into Chile, where he expected to strike a decisive blow against the Spaniards. This banner was made entirely by the fair hands of the Mendoza ladies. It was made of silk, and its entire field was divided, horizontally, into two equal stripes, the upper being white and the lower a light greenish blue. In the center of the flag, cutting equally the white and blue stripes, was depicted what, in its main essentials, is now the elliptical or oval national shield of Argentina. The edges of the banner were richly embroidered with precious stones.

The new Banner of the Sun was publicly consecrated in Mendoza City amid the most elaborate religious, military, and civic ceremonies, on the 5th of January, 1817. As the standard was unfurled to the breeze a salute of twenty-one cannon was fired, after which all the spectators and soldiers shouted: "Long live our Argentine native country!" General San Martín then, holding aloft the banner, exclaimed, in a vibrating voice: "Soldiers! Swear to uphold this standard, and die, if necessary, in its defense, as I swear to die!" "We swear to do so!" came the response, amid a triple discharge of musketry, followed by a salvo of twenty-five cannon shots.

Six days later the Banner of the Sun waved over the Army of the Andes as camp was broken and the entire expedition, marching westward, prepared, with General San Marrín at its head, to brave the arctic terrors of the Chilo-Argentine Cordillera, and rapidly disappeared from view in those frightful mountains. This expedition, in the amazingly brief period of twenty-four days, traversed about 150 miles of the Andean heights, and, descending into Chile, surprised and routed a large Spanish army at the Crest of Chacabuco, on the 12th of February, 1817. Slightly over a year later, at the battle of Maipu, April 5, 1818, Chile was forever liberated from the yoke of Spain and began her career as a prosperous, enlightened, independent republic. From Chile the Argentine-Chilean Liberating Expedition proceeded northward as far as tropical Peru and Ecuador, and partially effected the liberation of those South American

Republics, their complete emancipation, owing to the retirement of General San Martín to Europe and private life, being accomplished by General Sucre, the great Bolívar's second in command, at the crowning victory of Ayacucho, December 9, 1824, fought in the loftiest Peruvian Andes.

The sacred Banner of the Sun, after having triumphantly waved over liberating armies through the now enlightened Republics of Argentina, Chile, and Peru, or very nearly over one-half of South America, found a resting place, after eight years of battles and storms, in the Government House of Mendoza City, where it was reverently kept as one of the glorious heritages of Latin America.

AUTHORITIES AND BIBLIOGRAPHY OF THE NATIONAL BANNER AND COAT OF ARMS OF THE ARGENTINE REPUBLIC.

The following are among the most authentic sources of information concerning the national shield and banner of the Argentine Republic:

Anuario del Ministerio de Relaciones Exteriores y Culto de la República Argentina, publicado por orden y bajo la dirección del Exmo. Señor Ministro Dr. E. S. Zeballos por Daniel Antokoletz (Del Ministerio). 1908. Buenos Aires.

A valuable official publication, containing President Alcorta's decree, dated May 24, 1907, prescribing in detail what the officially recognized Argentine shield and banner are. This annual has a finely colored plate of both the shield and banner.

2. El Escudo y los Colores Nacionales por Estanislao S. Zeballos (Extracto de La Revista de Derecho, Historia y Letras). Buenos Aires. 1900.

A carefully prepared essay, by the learned Doctor Zeballos, Argentine Minister of Foreign Affairs, on the origin and history of Argentine's coat of arms and banner.

3. The late Gen. Bartolomé Mitre, ex-President of the Argentine Republic, who has an international reputation as an accurate historian, gives important and interesting data on the Argentine banner in his *Historia de Belgrano*, Volume I, Chapter X, page 341 et seq., and relates how the Argentine national colors, sky blue and white, came to be adopted. In his "History of San Martín" (*Historia de San Martín*, Volume 2, page 500, and following, Chapter XII), the celebrated Argentine and South American liberator, Mitre, gives a very interesting account of the famous *Bauner of the Sun*, made by the ladies of Mendoza City, and borne by San Martín in 1817 and subsequent years across the towering Andes, during his military campaigns for the liberation of Chile and Peru.



ARGENTINE REPUBLIC.

HE one national holiday in the Argentine Republic, which is there annually celebrated with all the enthusiasm of the American Fourth of July, is the 25th of May, because, nearly one hundred years ago, on that date, 1810, the last Spanish Viceroy, Cisneros, was deposed by the patriots of Buenos Aires and republican institutions inaugurated by a revolutionary junta or provisional directory assuming the reins of power until popular elections could be held and a general constituent congress of the La Plata Provinces, as the Argentine territory was then designated, could be convoked. In due time this Congress assembled in the picturesque tropical city of Tucuman, in northern Argentina, and, on the 9th of July, 1816, issued, in the name of the "United Provinces of the Rio de la Plata," a stirring Declaration of Independence.

The history of the birth of representative government and republican institutions in the Argentine Republic is replete with interest. The antecedent causes of the Argentine Revolution of May 25, 1810, may be traced back to the British invasion of the La Plata region and the temporary occupation of Buenos Aires City in 1806 and 1807, and also to the subjugation of Spain in 1808 by the French armies of Emperor Napoleon I and the long captivity in France of the legitimate though imbecile Spanish sovereign, Ferdinand VII.

Under three centuries of Spanish rule and colonization the Viceroyalty of Buenos Aires had enjoyed a dormant, unprogressive existence until it was suddenly aroused by the unexpected arrival at the mouth of the Plata River of a British fleet of 6 war ships and 310 guns, on the 10th of June, 1806. The city of Buenos Aires was practically defenseless, and as the Spanish Viceroy Sobremonte completely lost his head, an improvised defense had to be maintained by a French naval captain, Santiago Liniers, and a young Argentine militia captain, Manuel Belgrano, who was later to become famous in the annals of his native country. Under these circumstances it was easy for the British Admiral Charles Beresford to land an attacking force of 1,600 to 1,800 men, and, on the 27th of June, 1806, to capture Buenos Aires.

The British, left now in undisturbed possession, introduced beneficial reforms, among others, the establishment of the first printing press in Argentina. The native population, however, still remained loyal to the mother country, Spain, and symptoms of discontent quickly began to manifest themselves. A month had not elapsed before a revolt was organized by Captains Liniers and Belgrano; assistance was secured from Montevideo, and, on the 10th of August, a decisive action was fought, which proved disastrous to the British. Next day Liniers penetrated into the city, and on the 12th Admiral Beresford was compelled to make an honorable capitulation, after having lost 300 killed, 1,200 taken prisoners, 35 cannon, and 1,000 rifles. An Argentine heroine, Manuela La Tucumán, distinguished herself in this battle.

Naturally, when news of this humiliating disaster reached London, Great Britain, smarting at the thought that untrained Argentine militia had inflicted such a blow to her prestige, determined to take adequate measures to recover what had promised to become for her a valuable South American acquisition. Accordingly, a powerful British fleet transported, by way of the Cape of Good Hope, an expedition of 10,000 veteran troops of the line, under Lieut. Gen. John Whitelocke.

The first action on the part of the British, on again entering, from the Atlantic, the mouth of the estuary of the Plata River, was to besiege Montevideo City, 120 miles west of Buenos Aires, which was effected on the 3d of February, 1807, although the Argentines had already dispatched thither a relieving army of 2,000. As soon, however, as news of this reverse was brought to Buenos Aires the enraged inhabitants, with the cordial cooperation of the Cabildo, or City Council, summarily deposed the incompetent Vicerovs Sobre-MONTE (February 10, 1807), and made Captain Linier their commander in chief, with Belgrano as his lieutenant. The latter now showed himself very energetic and ordered a general enlistment of all citizens capable of bearing arms, and, under the most severe discipline, organized a new regiment, called the "Patricios" or "Patricians," whose white and light-blue uniforms were later to suggest the colors of Argentina's national banner.

Meanwhile, the British, who now had at their disposal 12,000 troops of all arms, were equally active. Their commander, Lieutenant-General Whitelocke, advanced rapidly toward Buenos Aires, and had his first action with the Argentine patriots on the 2d of July, 1807. This skirmish proved disastrous to the latter, but they were favored, in their retreat, by heavy rains and muddy conditions, as well as by the blunders of the British commander in chief, who, in attempting to take the city by assault, divided his forces into three detachments, operating from the north, south, and west to east. The

British attacking army consisted of 6,200 men (July 3), which succeeded in penetrating a considerable distance into Buenos Aires, then containing 45,000 souls. The heroic inhabitants maintained a desperate defense, hurling down stones and pouring boiling water from the flat-roofed houses upon the foreign invaders with such effect that the latter were forced to beat a hasty retreat.

The contest between the contending armies continued until the 6th of July, when an honorable capitulation was granted by General Belgrano to the discomfited British, who had lost more than 1,000 prisoners and about 2,000 killed and wounded, or virtually onefourth of the 6,200 troops making the attempt to recapture Buenos Aires.

One of the results of this glorious "Reconquest" was the public emancipation, with imposing ceremonies, of 70 negro slaves, chosen by lot out of 686 slaves who had gallantly aided in the defense of Buenos Aires.

A new era was dawning upon this La Plata region of South America. Self-reliance and a latent yet growing feeling of independence were spreading among the Argentine patriots, who, left unprotected by Spain, had rescued their native country from a most formidable foreign invasion and had won the respect of the mightiest empire in the world. They were, therefore, in no mood to accept tamely the result when slow-going sailing vessels from Europe brought the news that French armies had in 1808 overrun Spain, deposed the lawful sovereign Ferdinand VII, and placed Joseph, the brother of Napoleon . I, upon the Spanish throne.

For the time being, the Argentines were content to form a regency, governing nominally in the name of FERDINAND VII, but it soon decame apparent that the old colonial régimé must terminate. With this end in view, the republican minority, led by Belgrano, Doctor Moreno, and several others of the most cultured members of Buenos Aires society, entered into a conspiracy, won over to their cause the Patricio and other native regiments, and, on the 25th of May, 1810, made a formal written demand upon the weak and vacillating Vicerov CISNEROS, the last representative of Spanish sway, that he should instantly resign. The latter hesitated for a few hours, but, perceiving the uselessness of an armed conflict with the entire population of the capital, yielded to the inevitable, and surrendered his power into the hands of the new provisional republican junta or committee of directors.

On that auspicious day, Argentina began her heroic war for independence against the might of Spain, and fifteen years later, together with her sister Republics in Mexico, Central America, and South America, became free and independent, with full opportunity to develop along the lines of enlightenment and prosperity.

It is no wonder, then, that the Argentine Government has determined to celebrate the centennial of her birth as a nation by holding in Buenos Aires a great Pan-American Educational Exposition, which will be opened on the 25th of May, 1910.

THE NINTH OF JULY—ITS SIGNIFICANCE AS A NATIONAL HOLIDAY IN THE ARGENTINE REPUBLIC.

Two national holidays are annually celebrated in the Argentine Republic—the 25th of May and the 9th of July. On the former date, in the year 1810, the patriots of Buenos Aires compelled the last Spanish viceroy, Cisneros, to resign, and established a provisional republican independent government. Then and there Argentine independence was born, but it was not to be maintained except at the cost of a prolonged and sanguinary war against Spain. The Argentines had, however, the courage of their convictions, and, on the 9th day of July, 1816, their first National Constituent Congress assembled in the picturesque city of Tucuman, northern Argentina, and issued a stirring declaration of independence, making the following remarkable prophecy concerning the future prosperity and greatness of the Argentine Republic:

Vast and fertile territories, varied and benign climates, abundant means of subsistence, treasures of gold and silver through an immense stretch of territory, and fine productions of every kind will attract to our continent innumerable thousands upon thousands of immigrants to whom we shall open a safe place of refuge and extend a beneficent protection.a

Bearing in mind the circumstances under which the Congress of Tucuman issued its Argentine Declaration of Independence, their action was an exhibition of sublime faith and courage, because, in 1816, the fortunes of the patriots throughout Latin America, from Mexico, Venezuela, and Colombia on the north, down to Chile and Argentina in the south, had reached their lowest ebb. Spain was apparently the undisputed mistress of the situation both upon the seas and on land. Her large, veteran, well-equipped and armed royalist armies occupied nearly every strategic point of vantage in the vast continent of Latin America, with the exception of Brazil, which then was a colony of Portugal. So desperate was the situation for the patriots that it seemed very doubtful whether the Argentine armies could successfully protect their native country from the incursions of the Spaniards issuing from the lofty Andean mountain

a Tierras inmensas i feraces, climas variados y benignos, medios de subsistencia abundantes, montes de oro i plata en estension interminable, producciones de todo jénero, esquisitas, atraerán á nuestro continente millares i millares sin número de jentes, á quienes les abriremos un asilo seguro i una protección benéfica.

passes of upper Peru (now Bolivia) to the north and of Chile to the west of the Argentine Republic.

There is no doubt that the wisdom, foresight, and courage of the Argentine statesmen assembled in the Congress of Tucuman contributed powerfully in rescuing the cause of liberty and enlightenment in Latin America, when, on the 9th of July, 1816, they adopted the Argentine Declaration of Independence, and proclaimed to the world that Argentina was to become, in fact as well as name, a free, republican, sovereign nation. The future brilliant victories of the great liberators Bolívar, San Martín, and Sucre were rendered possible, and nine years later, in 1825, Spain lost all of her possessions in the New World, with the exception of Cuba and Puerto Rico.

One can, therefore, understand why, throughout the Argentine Republic, the 9th of July is celebrated as a great national holiday.



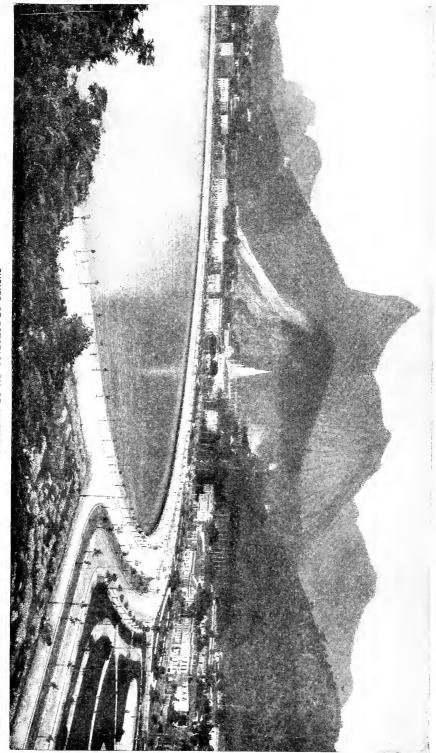
BRAZIL'S NATIONAL EXPOSITION : : : :



ERY little was known of Brazil until the last few years, when, suddenly, like Minerva springing from the head of Jupiter, she came to take her place in the foremost rank among the nations of the world.

In the first few years of the Republic little could be done for the aggrandizement of the country at large, each State being fully occupied in adapting herself to the new form of government; but even during the revolt of ninety-three, the only one in the history of our great Republic, a great impulse was given both to industry and agriculture. Slowly but surely the giant awoke from her sleep! Perhaps the evolution was not as rapid as that of her great sister Republic, but once having set her foot upon the upward march she has taken "Excelsior" for her motto, and thanks to the energy of a chosen band our country occupies to-day the place which is hers by right, in virtue of her size, geographical position, and the innumerable riches with which nature has endowed her.

To commemorate the hundredth anniversary of the opening of her ports to the commerce of the world, which was decreed in the reign



SUBURB OF BOTOFAGO, RIO DE JANEIRO, BRAZIL.

This suburban residence section fronts on Botofago inlet, an arm of Rio de Janeiro Bay, circular in form and having a very narrow entrance. Botofago was first populated as a summer resort by the wealthy residents of the cupital. The rapid extension of the city absorbed the outlying communities, and now a compact city occupies the territory formerly dotted with widely separated settlements. The inlet affords safe anchorage for the largest vessels.

of John VI, Brazil wishes to show to all nations the progress she has made in all the arts and industries, and in no better way could she prove this than by the great exposition which was opened on August 11, 1908.

The Praia Vermelha (red beach), one of the most picturesque spots in Rio, had been chosen as the site of the great exhibition after much



ENTRANCE TO THE EXPOSITION GROUNDS.

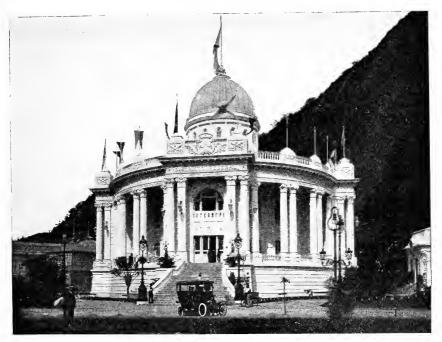
This monumentai gateway was designed by René Barbá, a well-known Brazilian architect.

discussion. Many were in favor of more central points, but the Brazilians, ever sentimental, found that the everchanging sea was the most fitting frame for the fair White City, which, in an incredible short space of time, was erected upon the sandy beach.

Night and day thousands of men plied their work with but one thought to animate their brain, to nerve the muscles of their arms—

to show to all the world what Brazil has achieved and what her sons can do. All party spirit was laid aside, all the twenty-one States of this great Republic worked harmoniously together, from the giant State of Amazonas to the smallest one, Sergipe—even the newly acquired territory, Acre, joined hands to make the exhibition a great and perfect success.

Nothing could be more beautiful than the chosen spot; in the background the great dark mountains, the Babylonia and Urca, raise their heads to the sky; the Sugar Loaf, of world-wide fame, stands as a sentinel at the entrance of the bay, the waves of the



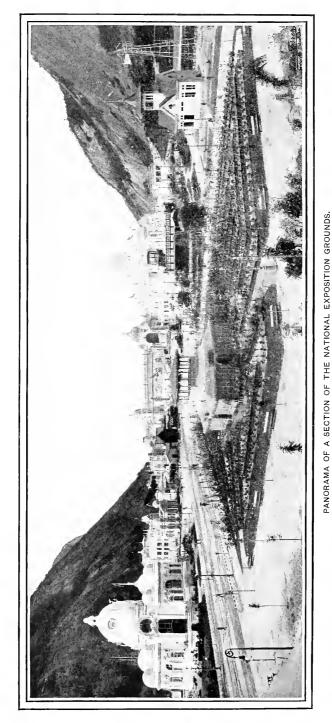
FEDERAL DISTRICT BUILDING.

vast Atlantic lap the shore, and during the night the searchlight flashes over land and water.

The exposition occupies a space of over 200,000 square meters.

The mode of ingress for pedestrians is the large archway, which is lit by thousands of electric lights, and when illuminated by night the myriads of colors give the impression of an enormous rainbow.

As one enters, at the right is a large building in which are exposed the many products of the various industries of the different States of Brazil. Upon entering the largest room the first thing to strike one's view are the reproductions in miniature of the great *Dreadnoughts* which before long will join our Navy. The principal room offers



In the foreground is the Botanical Garden Pavilion. To the left is that of the São Paulo, and to the right the Federal District Pavilions. The Textile Industries Building is in the background,



THE TEXTILE INDUSTRIES BUILDING.

This monumental structure, surmounted by a statue of Fame, is the remodeled Military $\Lambda {\rm cademy}.$



THE BANGÚ FACTORY BUILDING.

This building was erected by the Bangú Textile Mills for the exhibit of its products.

a fairy-like spectacle—thousands of diamonds, topazes, rubies, amethysts, all found in our mines, sparkle behind great plates of glass; other show cases are filled with unique and rare minerals, gold dust, etc.

Among other things worthy of note is a collection of jewelry of great historical value.

Large figures of bronze stand around and fine paintings decorate the walls.

Coming into the next rooms one could fancy oneself in a large Parisian atelier; every article of feminine apparel is to be found here,



THE SÃO PAULO PAVILION.

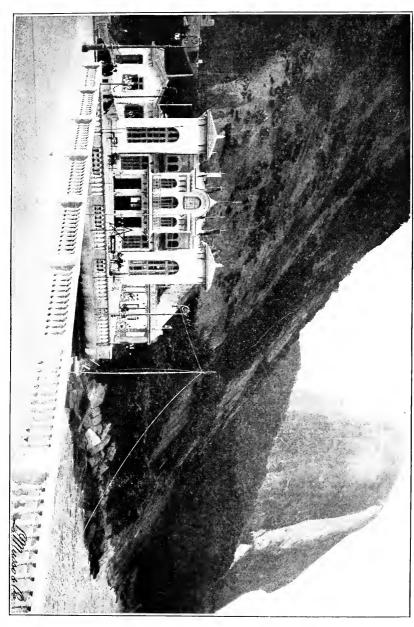
The São Paulo Building stands next to that of Minas Geraes, and covers an area of 4,593 square feet. It is one of the finest buildings of the exposition.

from the dainty hat decked with the bright plumes of Brazilian birds and flowers of home manufacture to the tiny Louis XV shoe.

But the male sex has not been forgotten; everything to clothe the human form divine is displayed here.

One section is given up entirely to furniture; the different woods of Brazil are shown here in all their beauty, and great taste has been displayed, and some of it has been purchased by an English nobleman to adorn his castle in old Albion.

It would take too much space to describe each section in full; indeed, it were hard to decide to which branch of industry to award the palm, where all have done their best.



RESTAURANT "PÃO DE ASSUCAR."

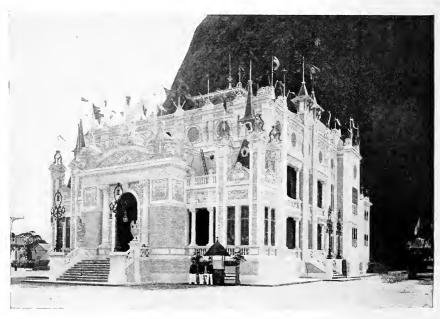
The restaurant is situated at the northern end of the esplanade Praia Vermelha. In the background is the Pao de Assucar (Sugar Loaf), one of the natural features of the Exposition grounds.

The larger States, such as Bahia, Minas, São Paulo, have erected artistic buildings, in which, on alternate nights, sumptuous balls, concerts, and receptions are given.

The one of Bahia, although the smallest, is by no means the least beautiful; two winding stairs lead up to a spacious terrace from which the view at night is like unto the Arabian nights.

The pavilion of Minas is the highest, with a large tower where thousands of lamps cast their light over the whole ground.

The building in which São Paulo displays her vast wealth is of great artistic beauty, reminding one of an oriental mosque.



THE EXPOSITION THEATER.

The theater has a seating capacity of about 750. Its interior decorations are original and pleasing.

The only foreign nation represented here is Portugal, the home of our ancestors. As one enters within the portal of the "Annex," the name given to one of the Portuguese buildings, the first thing upon which one's eyes rest is a life-size painting of the murdered King Carlos. The unfortunate monarch had accepted the invitation to visit our exposition, and the thousands of his subjects living in Brazil had rejoiced in the prospect of seeing their beloved monarch in their midst. But, alas, it was not to be! His son, the present King Manuel, sent a picture painted by the royal hands of his departed father, a landscape, a sunny space in a forest which shows him as much an artist as a king.



EXPOSITION PALACE.

The Palace is used for official receptions during the Exposition and for the exhibits of those States which have no special buildings, It was formerly the War University.

The *elite* of Portuguese painters are represented here; portraits, still life, marine views, are all grouped in artistic confusion. It scarcely needs to speak of the beauty of the silverware made in Portugal, only one thing I will mention particularly—the massive loving cup in heavy silver which King Manuel sent to President Penna.



AGRICULTURAL DEPARTMENT BUILDING.

The vast rooms of the former military academy, now transferred to the State of Rio Grande do Sul, are hung with draperies of silk, linen, and cotton goods of multifarious colors. Nearly everything which man needs is to be found within those walls. Seated in one corner, girls are seen stitching cravats; in another, men are weaving hammocks, here the shoemaker plies his trade, there the bookbinder binds his books; a small world within a large one.

What is this large white building which first strikes our view upon entering the grounds? It is the building of the Federal District, and in size and beauty would honor any capital of the world.



THE MINAS GERAES BUILDING.

A stately and solidly constructed building, expressing the power and wealth of the great central State. It was designed by the Brazilian architect, Rebecchi.

A building reminding one of a Swiss chalet is filled with the flora of Brazil; another is dedicated to pisciculture, and in a large aviary thousands of birds display their bright plumage; near by the blooded horses of Rio Grande, horned zebus, prize dogs, and fatted sheep are grouped.

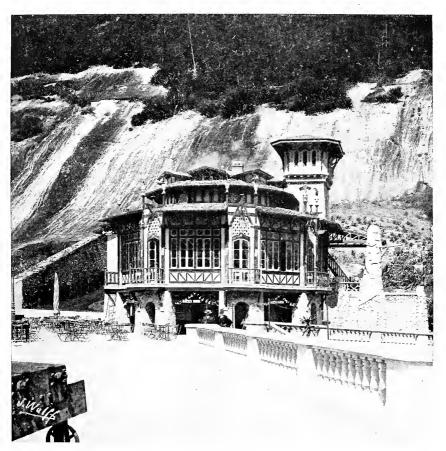
Every amusement is to be found within the precincts of the fair. On the boards of one theater the national drama has its home; a variety show is to be found in another one; different cinematographs



POST-OFFICE AND TELEGRAPH BUILDING.

amuse the crowd, while skating rinks, merry-go-rounds, etc., are preferred by the many children who daily throng the grounds.

Each week there are three *corsos;* Wednesday afternoon the *elite* of Brazilian society, in carriage and auto, drive along the palm-lined avenues of the Exposition; on other days bicycle and horseback riders take the same way.



RESTAURANT.

A rustic restaurant, located at the south end of the terrace of the Textile Industries Building.

Words can not describe the loveliness of the scene when at night all the buildings are illuminated, when thousands of Japanese fireworks ascend to the sky and a multitude of people coming by land and sea promenade the many avenues, merry children drive about in wicker carriages, while military bands discourse sweet music. It seems indeed like an enchanted city.

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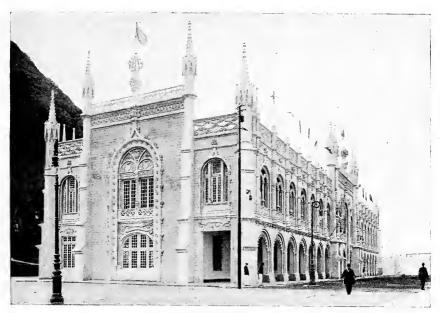
BAHIA BUILDING.

The Bahia Pavilion occupies an area of 54,359 square feet. The exterior is adorned with two majestic statues of Justice and Science, and a central group, consisting of figures bearing **a** shield, representing the State of Bahia.

Let us hope that before long our great statesman, the Baron of Rio Branco, the champion of pan-Americanism, will be able to realize the great desire of the Brazilian people—a vast exposition in these same grounds, in which all American Republics will take part.

Herbert Moses.

RIO DE JANEIRO.



THE PORTUGUESE PAVILION.

This pavilion was erected and offered by Brazil to the Portuguese nation for exhibition purposes,

MESSAGE OF THE PRESI-DENT OF MEXICO

The Message which President Diaz delivered to the Mexican Congress at the opening of the twenty-fourth session on September 16, 1908, is an interesting review of the affairs of the nation as they exist at the present time.

In regard to foreign relations the Chief Executive says that the relations with foreign nations continue satisfactory, and that there are no pending questions to disturb the public peace.

With respect to the United States, he says:

The Government of the United States of America has given proofs of its friendliness toward us, and in general such questions as have arisen between ourselves and that Government have been satisfactorily adjusted.

Referring to the Central American Peace Court, President Diaz states that—

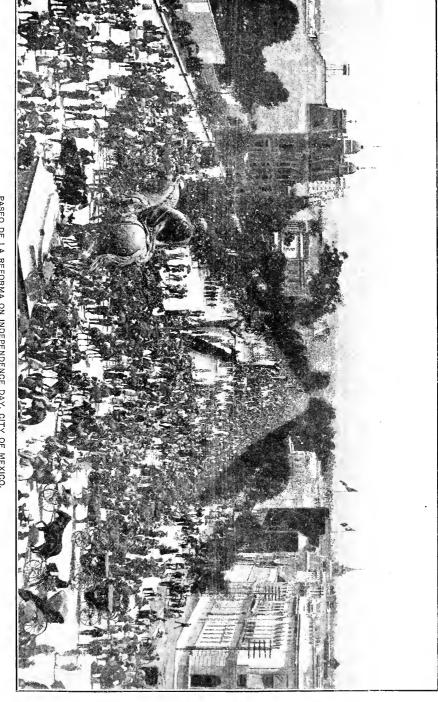
Our Ambassador at Washington was present, in company with an American Commissioner, at the inauguration of the International Court of Justice at Cartago, Costa Rica. As a consequence we have been favored with the visit of a distinguished Special Envoy of the Costa Rican Government, as we had previously had the pleasure of entertaining Commissioners from the nations represented at the Central American Peace Conference.

We hope that the newly-established tribunal will contribute to the maintenance of peace in Central America, and Mexico, for her part, will do all that is possible and proper for the attainment of so desirable an object. With this end in view the Executive consulted Congress as to the establishment of legations in Costa Rica, Honduras, and Nicaragua, and sent the nominations of their personnel to the Senate. The new legations have already been opened, and a diplomatic representative of Mexico is once more in residence at Guatemala City, having charge also of our legation to El Salvador.

Postal conventions have been entered into with some of the Central American States, and an extradition treaty has been concluded with Honduras.

A committee of jurists has been appointed in pursuance of resolutions adopted by the Third Pan-American Conference, to consider the measures that should be taken to carry out the decisions of the three international conferences of American States. In due time Mexico will appoint representatives to the conference to be held in Rio de Janeiro in May, 1909, to draw up codes of international law for the use of the nations of America.

The treaty of arbitration with Italy, signed at The Hague on October 16, 1907, the supplementary convention with Germany amending the convention of May 24, 1892, and Mexico's adhesion to



PASEO DE LA REFORMA ON INDEPENDENCE DAY, CITY OF MEXICO.

Mexico's natal day is the 16th of September. On that date, in 1310, a parish priest, Dolores by name, raised the cry. "Freedom from had government," popularly known as "El grito de Dolores," Mexican independence was proclaimed November 6, 1313. Paseo de la Reforma commences at the foot of the wooded hill on which is situated the Castle of Chapultepec, the summer residence of President blaz, and extends through the center of the residential section of the city, as far as the colossal equestrian statue of Charles IV, of Spain, the largest in the world. The Paseo is provided with two automobile driveways, two for other worlds. vehicles, and sidewalks for promenaders.

(Ccpyright—Photograph, by Waite.)

the declaration of Paris of April 16, 1856, with respect to maritime law and the abolition of letters of marque, have been promulgated. Delegates have been appointed to attend the diplomatic conference on international maritime law to be held at Brussels in December, 1908.

The field work for a detailed survey of the Valley of El Paso, embracing a radius of some 200 kilometers, has been completed by the mixed boundary commission of the United States and Mexico. Special Commissioners of the two Governments are engaged in investigating the problems involved in the irrigation of the Colorado River Valley, in which both countries are equally interested.

The sanitary conditions of the coast are excellent, and stringent

measures have been put in force to combat dangers from yellow fever and other contagious diseases throughout the country. In the war against smallpox, 10,000 persons have been vaccinated, and 6,000 revaccinated between April and the middle of August, 1908.

During the fiscal year an average of 4,124 persons were cared for daily by the charitable institutions of the Republic at a cost of

1,307,000 pesos.

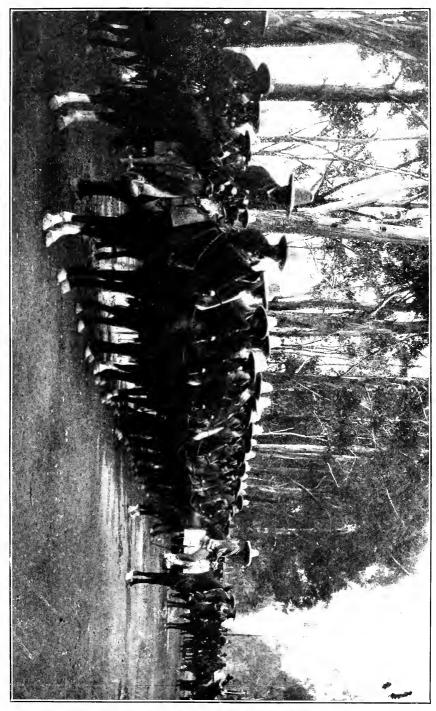
The works for supplying the capital with additional drinking water are well advanced, some of the new water being already received in the city, and the construction of additional reservoirs is well under way.

The construction of 3,360 meters of main sewers in the Colonia de la Condesa in the capital prepares the way for the sanitation of the suburb of Tacubaya. More than 15,000 square meters of asphalt, 15,000 square meters of stone pavements, and 10,000 square meters of flagstone sidewalks have been laid during the year in the capital, and ground costing 225,500 pesos, needed for public improvements in the City of Mexico, has been acquired by expropriation proceedings.

The congestion of business in the civil courts of the capital has rendered imperative the establishment of a new civil court. The commission for the drafting of the federal code of penal procedure has concluded its work, and the Executive hopes soon to promulgate the new code.

The transactions entered at the Public Registry of Property of the capital during the first half of the present year aggregated 669,439,306 pesos, or more than 400,000 pesos in excess of the transactions for the first half of the previous year.

A new primary law for the Federal District and territories has been promulgated. Regulations have been issued for medical inspection of schools, and in order to prevent the spread of contagious skin diseases among children it has been decided to create a special school for children suffering from ringworm in which suitable treatment will be given to such pupils. There are at present 45,439 chil-



RURALES, MEXICO.

The Rural Police force was formed for the purpose of ridding the country of outlaws at a time when Mexico was overrun by bandits and robbers. Having fulfilled this duty the organization was continued in the service of the Federal Government to enforce the laws and maintain order throughout the Republic. The force consists of some 2,000 picked men, alike renowned for their fine appearance, good conduct, and splendid horsemanship. It is divided into 10 corps of 20 troopers each, stationed at various points.

dren of school age in the City of Mexico, some of whom do not attend school, and the Government is taking the necessary measures to see that all of these receive the proper instruction.

The Government is giving special attention to the operation of normal schools, and has taken measures for the erection of new buildings and the securing of a higher standard of efficiency in the education of teachers of both sexes.

The Bacteriological Institute continues to prepare vaccine and serum, for overcoming smallpox and the plague, for the use of the Superior Board of Health. The Medical Institute has commenced a systematic study of the flora and fauna of the Valley of Mexico. The equipment of schools has been improved, and especially is this true of the primary and normal schools, the manual training schools, and the scientific schools and colleges of the capital.

The class of ethnology of the National Museum has made important expeditions to the States of Tamaulipas and Veracruz for the purpose of studying the indigenous races of those regions the class of archæology of the Museum of Zacatecas has investigated that subject in said State, and a group of pupils in the vicinity of the burning well of Dos Bocas have been sent to observe that phenomenon and the manner of combating it.

A new building has been erected and equipped for the School of Arts and Trades for Women, and the departments of archæology and history in the National Museum are being enlarged. The exploration of the pyramids of Teotihuacan continues, and a railway line to haul away the débris has almost been completed.

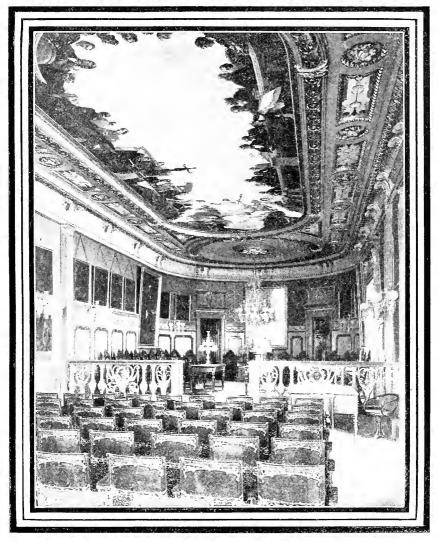
The Government has appointed delegates to the First Pan-American Scientific Congress, to be held in Santiago, Chile, in December of the present year, as well as delegates to the first International Congress of Moral and Social Training, held in London in September, 1908, and delegates to the International Congress on Tuberculosis, held in Washington from September 21 to October 12, 1908.

The Executive has also appointed delegates to a committee to make preparations for the foundation of an international institute to inquire into the causes and cures of mental diseases, and as chairman of the Mexican committee of the First International Congress of Administrative Sciences, which will be held at Brussels in 1910, he has appointed the present Minister of Finance, and will appoint delegates to the Third International Congress of Family Education, which will meet in Brussels in 1910.

The Government has accepted an invitation to have an exhibit in the Exposition to be held in Boston from October 5 to 31, 1908.

From January to June, 1908, the Department of Fomento issued 831 title deeds for land, covering 336,562 hectares, which yielded to the Federal Exchequer 175,392 pesos.

The work of completing a general map of the Republic is being encouraged by the Administration, and the hydrographic map of the State of Nuevo Leon, the first of a series which it has been decided



SESSION HALL OF THE MUNICIPAL BUILDING, MEXICO CITY.

This assembly room was recently remodeled and embellished under the supervision of a committee of noted architects and engineers of the Republic. The walls are decorated with oil paintings of Mexico's illustrious men, and on the ceiling is a fresco portraying every governor of the country during the suzerainty of Spain. The City Hall has occupied the same location since 1532, but the present structure was erected in 1724, at a cost of \$68,000.

to prepare with a view to the acquisition of a better knowledge of the rivers of the country and the utilization of their waters, has been finished. A commission is now studying the flora and fauna of the Republic in the State of San Luis Potosi, and will proceed from that State to the States of Nuevo Leon and Veracruz.

Networks of meteorological stations have been established in the States of Sinaloa and Sonora, and observations were taken of the eclipse of the sun on June 28 last.

The mining titles issued from January to June, 1908, numbered 3,600, and covered an area of 58,781 hectares. These, added to those issued during the first half of the fiscal year, make a total of 6,600 title deeds, covering 119,634 hectares.

The Geological Institute has made topographical surveys of different formations of a considerable part of the State of Oaxaca; has completed an examination of the Peninsula of Yucatan and of the Verde River, in the State of San Luis Potosi; has made a hydrographic study of the basin of La Laguna, and has made a report that will form the basis for the construction of a great dam on the Nazas River.

The agricultural stations at Ciudad Juarez and Rio Verde have done important work concerning the improvement of the breeds of domestic animals and the production of new crops. A central board of forestry has taken an active part in the planting of trees in the neighborhood of the capital, and has studied a project for the formation of an artificial dune, planted with trees, near the city of Veracruz.

Stock raising has been encouraged, and concessions have been granted to the Coyocan association to hold periodical shows for the exhibition of stock, and 58,000 pesos has been appropriated for prizes and expenses of cattle and horse shows.

From January 1 to June 30 of the present year, 525 patents of invention and 12 for industrial designs were granted. The trademarks registered numbered 511, commercial announcements 3, and commercial names 32.

Waterworks for Coatzacoalcos have been completed, and 850,000 cubic meters of earth have been removed from the port by dredging. The port of Salina Cruz has been dredged to a depth of 10 meters at low water, and improvements have been made to the dry docks and drains of the city.

The railways under Federal control number 18,809 kilometers which, plus 4,840 kilometers under the jurisdiction of the States, makes a total of 23,649 kilometers of railways in the Republic.

There are 2,934 post-offices in the Republic, which handled during the fiscal year 195,000.000 pieces of mail matter, issued 50,955,000 pesos in domestic postal drafts and 5,237,000 pesos of foreign postal drafts. The total earnings of the post-office department for the last fiscal year were 4,200,000 pesos.

The total length of the Federal telegraph system is 62,412 kilometers.

The receipts from customs duties for the fiscal year ended June 30, 1908, were a little more than 54,000,000 *pesos*, and the total revenues of the Republic were 110,000,000 *pesos*, approximately.

The National Railways of Mexico have induced the holders of shares and bonds of the National and Central Railways, to surrender the securities of those companies which have their domicile in the United States in exchange for securities of the new company domiciled in Mexico, and the public issues of bonds of the new company have been largely oversubscribed in foreign cities where they were offered to the public.

At the invitation of the Government of the United States, a physician and surgeon has been appointed to attend the annual meeting of the Association of American Military Surgeons which will take place in Atlanta, Georgia, in October, 1908.

In conclusion the President says:

What I have told you will prove that the Executive has spared no effort to keep all the departments of the Administration on the path of progress along which for years past they have traveled to the greater welfare of the Republic. This auspicious condition is the result of the order and peace which the country enjoys, and nothing can deprive it of those benefits while that order and peace endure. * * * We may therefore trust, placing as ever our reliance on the good sense of the Mexican people and the enlightened patriotism of the legislators, that the prosperity of the Republic will endure and wax greater as the years go by.



INTERNATIONAL CENTRAL AMERICAN BUREAU

HE International Bureau of the American Republics was informed on September 15, 1908, of the inauguration on that date in the capital of Guatemala of the International Central American Bureau. This institution is one of the practical outgrowths of the Central American Peace Conference held in Washington in the closing month of 1907, and has as representatives from the various countries of Central America the following delegates:

From Costa Rica, Ricardo J. Echeverría; from Salvador, Carlos Guillén; from Guatemala, José Pinto; from Honduras, Manuel P. Barahona; from Nicaragua, Benjamín F. Zeledón.

The President of Guatemala was present at the imposing ceremonies which marked the opening of the Bureau, and the occasion was made

one of public rejoicing.

The object of the Bureau is to develop, supervise, and care for the common interests of the five Central American Republics, such, for instance, as to combine every effort toward the peaceful reorganization of Central America; to impress upon public education in the different countries an essentially uniform, broad, complete, and practical Central American character in accordance with the modern pedagogical tendency; to develop Central American commerce, and all that may tend to make it more active and profitable, and to advance agriculture and industries that can be developed to advantage in the different sections of the Republics.

Other important functions of the Bureau are to make uniform, civil, commercial and criminal legislation, recognizing in so doing, as a fundamental principle, the inviolability of life, respect for property, and the sacredness of the personal rights of man. Uniformity in the system of custom-houses, in the monetary system with a view to securing a fixed rate of exchange, in general sanitation, and especially the sanitation of Central American ports, and uniformity in the system of weights and measures, will receive the careful attention and consideration of the Bureau. The question of the definition of what constitutes real property in such a manner that it will serve as a foundation for credit and permit the establishment of mortgage banks, is also one of the important subjects within the scope of the Bureau.

The Bureau is composed of five delegates—one from each of the Central American States—and is empowered to make all provisions of internal regulation that may be conducive to the proper fulfillment of the mission of maintaining and developing the Central American interests that may be placed under its care and supervision. Every six months the Bureau will make a detailed report to each of the Governments, showing what it has accomplished during that period. The help of the diplomatic and consular agents of the contracting Governments will be made use of, whenever necessary, in obtaining such data, reports and information as may be considered of use to the Bureau in the prosecution of its work.

The expenses incident to the support of the Bureau will be borne in equal proportions by the signatory powers, and the Bureau will be a medium of intelligence among the Republics in interest, and will do all that it may deem proper, within the scope of its powers, toward the development of the relations and interests of the Central American States. The Bureau will have an organ of publicity in connection with its work, and will endeavor to maintain intercourse with other offices of a like nature, and particularly with the International Bureau of the American Republics in Washington. The convention creating this Bureau will remain in force for fifteen years from the date it was signed, and may be extended for a longer period of time at the will of the contracting nations.

PAN-AMERICAN SCIENTIFIC CONGRESS.

Señor Augusto Vicuña, of Chile, Pro-Secretary of the Committee on Organization of the Pan-American Scientific Congress, which meets in Santiago, Chile, on December 25 next, has an article on the Congress in the August number of the "Revista de Derecho, Historia y Letras," of Buenos Aires, a translation of which is given below.

AMERICAN AND EUROPEAN MENTALITY.

The interest growing from day to day which the coming Pan-American Scientific Congress awakens among thinking men and in public opinion of the American countries exceeds greatly that taken in the brilliant Latin-American assemblies which met in Buenos Aires, Montevideo, and Rio de Janeiro. This greater interest in the Congress which will assemble in our country is due primarily to the new questions to be worked out on this continent, which the Congress will present for scientific investigation, and, secondarily, to the enlarged Pan-Americanism given to the Congress by the agreement to invite the United States to take part in the work.

In the congresses of Buenos Aires, Montevideo, and Rio de Janeiro undoubtedly an elevated spirit of solidarity was dominant, since in them participated the most cultivated intellects of the Latin-American Republics, as a crown to whose work an aggregate of principles was enunciated, vital to the political, social, and economic life of these Republics.

The decision by which a Pan-American character has been given to the coming Congress acquired public importance, seeing that this decision will have its part in cementing, upon the basis of mutual understanding and intellectual community, friendship with the United States—a country that now for some time has drawn toward the young American Republics, not in order to satisfy bastard ambitions for territorial annexations or any such like purposes, but in order to offer them its aid in successfully fulfilling the duty of progress laid upon every nation aspiring to hold a place in civilization. So, if the presence of the United States in the sessions of the Fourth Scientific Congress shall contribute to give to that assembly greater prestige than was enjoyed by former assemblies, or, if it gives greater weight to the votes and decisions of the Congress, all of this will constitute simply a gain for the American countries.

In regard to the countries foreign to America the coming Congress would be remiss if it raises not a standard destined to mortally wound prejudices and false ideas that have kept us for nearly a century subject to an intellectual slavery in which Europe has dominated and influenced us with its laws, customs, history, and literature. From time to time the voice of some far-seeing statesman has been raised on the virgin soil of America warning its people of the great danger that would come to them in accepting blindly this political, social, and economic literature which Europe has dumped upon us. Useless labor!

Here no one lends ear to the warnings of those who, appreciating and esteeming highly the intellectual aid which Europe proffers us, wish at the same time to take an inventory of what we are receiving, in order to choose what agrees with us and to refuse what does not accord with our social organizations, our customs, the traditions which dominate us, and with our education which, finally, is the regulator of progressive capacity.

It was necessary that the American nations sift out all the solutions which to their political, social, and economic organization are offered by the countries of monarchical institutions, like England; of a great working-class element, like France, and the exporting country par excellence, Germany. It was necessary, we say, that these principles embodied in the institutions of these countries should have been a complete failure, in order that in the end a way is made for the

idea that America must develop its institutions in the light of its history and the peculiar conditions of its social state.

To form an American mentality, to carry to the laws and to the national organism its own breath of life, to trace in the special peculiarities of each people that best for its moral, intellectual, and material perfectionment—here is the beneficent idea which it is proposed to make central at the coming Congress. We are convinced that this idea must rule, for it is the only means of accomplishing through the adoption of rational laws based on experience, the purification of our political and administrative system, and the securing of a fixed economic policy.

At present everything tends to clear the road, in order that the intelligence of the three Americas may join efforts so as to bring to the solution of all these problems a criticism cool, independent, and entirely free from the imposition of a foreign medium.

Once the absolute supremacy of European ideas and criticism in regard to the interests of the people of Columbus's world was explicable. The enmities and jealousies which kept these peoples apart, want of communication between them, the difficulty of intellectual commerce, precursor of material commerce—all this conjunction of circumstances worked so effectively that Europe was for nearly a century the schoolmistress who gave us her primers on political organization, her tracts on political economy, and her texts on pedagogy. Our speakers in Parliament in enlightening public opinion leaned upon the authority of Bluntschli, Stuart Mill, Adam Smith, and others.

To-day all is changed. Very powerful currents of cordiality circulate through the American organism; thinking men from the southern half of the continent draw together with men of the northern half, inspired by a sincere purpose to study together the questions which concern the common country, America, until now in the grip of prejudices retarding its march toward progress.

The creation of an American mentality constitutes a menace to no one, nor is it a formula to bring into being political alliances formed for aggressive purposes. No; America acknowledging the services it has received, and is receiving from Europe, can do no less than absorb into its nature ideas and opinions which united to the ideas and opinions gained from our own leaders of thought, shall form a body of doctrine which will more and more elevate us in the world concert. Chile may justly feel proud of the movement she has initiated.

The enlarged Pan-Americanism of the Congress, as also the special recommedation involved in the idea that on our continent are a series of problems which can not be solved by the same criterions with which Europe would solve them, are opinions formulated by the Committee on Organization. It is not, then, as some have believed, the carrying out of resolutions agreed upon by the last Congress.

It is very gratifying to take note of the enthusiasm with which the United States has received the idea of the Congress. That country will take part in the assembly, not only represented by a large and select delegation, but with an active and enlightened propaganda through public opinion.

The Fourth Scientific Congress, the First Pan-American, will have, in conclusion, to cement upon granite bases the union of these peoples, not to flaunt the sinister trappings of a condition of armed peace, but in order to give an example to the world that there is no victory nobler than that obtained in subjecting the natural elements to the cause of human progress.

THE VEGETABLE IVORY OF COMMERCE.

Ivory nuts, popularly called vegetable ivory, are the fruit of the Phytelephas macrocarpa, a species of palm, and they are known in France and Spain as corozo nuts and in Colombia as tagua nuts. The trees require fifteen years or more before they can properly mature nuts for manufacturing purposes. Vegetable ivory is used commercially for the manufacture of buttons particularly, gaming counters, various electrical appliances, and for various kinds of inlaid work, for which they are turned or carved.

The Central American Republics generally grow and export ivory nuts, but the business is particularly important in Colombia, Panama, Ecuador, and Peru. Prices quoted at present, goods delivered in European ports, are: Guayaquil decorticated, 55 to 60 francs per 100 kilograms (\$10.61½ to \$11.58 per 220 pounds); Panama, North Colombia nondecorticated, 20 to 23 francs per 100 kilograms (\$3.86 to \$4.44 per 220 pounds); Guayaquil, Tumaco, South Colombia, 30 to 35 francs (\$5.79 to \$6.75½) per 220 pounds nondecorticated; or 40 francs (\$7.72) per 220 pounds decorticated. The decorticated nuts sometimes reach the high price of 70 francs (\$13.51).

The chief ports of shipment are Colon, in Panama, and Cartagena and Tumaco, in Colombia.

The chief consuming countries of this article are France, England, Germany, the United States, Italy, Russia, and Spain. The port of Cartagena in Colombia alone exported ivory nuts in 1907 to the following extent in tons: Germany, 3,423; France, 505; United States, 441, and England, 53. These shipments all originated in the Departments of Bolivar, Magdalena, and Atlantico on the Atlantic coast and Cauca on the Pacific coast.



TRADE DISTRIBUTION, FIRST HALF OF 1908.

In the total foreign trade of the Argentine Republic for the first six months of 1908, imports figure for \$131,273,361 and exports for \$223,076,267. The proportion contributed to the import list by the leading participating countries was as follows:

Great Britain, 41 per cent; the United States, 17.1; Germany, 15.4, and Italy, 10.4 per cent, increased ratios being noted for all countries mentioned, with the exception of Germany, as compared with the corresponding period of the preceding year.

Of the exports, 14.5 per cent was sent to Great Britain; 14.9 to France; 13 to Germany; 11.4 to the United States, and 43 per cent was credited to "orders."



BANCO HIPOTECARIO, LA PLATA, ARGENTINA.

La Plata, the capital of the province, is 35 miles by railroad from Buenos Aires. The large and magnificent public and commercial edifices harmonize perfectly with the wide, well-paved avenues, crossed diagonally by spacious boulevards, and interspersed with many large parks.

The classification of exports assigns \$55,345,672 to pastoral products and \$163,794,913 to agricultural products, the former showing a decline of nearly \$13,000,000 and the latter an advance of over \$50,000,000 as compared with the same six months of 1907.

BUENOS AIRES BANKS IN 1908.

The report on the status of the banks of Buenos Aires on June 30, 1908, shows deposits of \$24,347,826 gold and \$748,646.037 national

currency; discounts and overdrafts, \$33,506,734 gold and \$678,029,080 national currency, and cash balances, \$35,507,857 gold and \$248,380,975 national currency.

THE MILLING INDUSTRY IN THE REPUBLIC.

The report on the milling industry of the Argentine Republic for 1907, as presented to the Ministry of Agriculture, shows 350 establishments and 991,491 tons of wheat milled. The resultant flour production was 677,536 tons, of which 127,000 tons were exported and 550,336 tons retained for home consumption. The by-products manufactured were bran, 175,339 tons; middlings, 93,038 tons, and pollards, 18,964 tons.

As a result of the modern methods employed in most of the mills the yield of flour has advanced from 64.5 per cent in 1895 to 68.3 per cent in 1907, and as the average of impurities in the wheat is only 2.8 per cent for the whole Republic, evidence is given of the care taken in the selection of seed by the farmers.

Of the total number of mills in the country, 60 were not in operation during the year; 156 employed steam, 52 water power, 103 animal power, and 39 mixed.

In the consideration of the year's work it is found that every 100 kilograms of wheat produced 68.3 per cent flour, 28.9 per cent by-products, and 2.8 per cent impurities.

The location of the various milling establishments is as follows:

Federal Capital	19	La Rioja	11
		Catamarca	
		Salta	
Entre Rios	36	Jujuy	15
Cordoba	22	Pampa	1
12 61 11		Neuquen	
Santiago del Estero	24	Rio Negro	1
Mandoza	17	Chubut	4
San Juan	25		

During the year the number of mills increased by 47, of which 9 are credited to Salta, 8 to Entre Rios, 6 to San Juan, 5 to La Rioja, 4 to Santa Fe, 4 to Santiago, and other localities in smaller numbers.

MODIFICATION OF CUSTOMS REGULATIONS.

Article 128 of the Customs Regulations of the Argentine Republic has been modified as regards the allowance for error in declaring the quantity and quality of imported goods. Prior to the promulgation of this law, in cases where the customs examination of imported goods revealed that the articles contained in a package were of superior class or quality to or present in larger quantity than that set forth in the declaration for clearance, no penalty was imposed

provided that the difference in value arising therefrom did not exceed 2 per cent, or as regards the quantity of those goods which are dutiable by weight, did not exceed 6 per cent.

The effect of the alteration now introduced is to abrogate the tolerance of 6 per cent as regards quantity and to substitute therefor a tolerance of 4 per cent in the case of the following goods dutiable by weight: Textile materials and manufactures thereof; paper and cardboard; chloride of lime; sugar, tobacco in bales; lime in wooden receptacles; chicory, coffee, and comestibles preserved in salt, in bales or wooden receptacles. All other goods, without exception, become subject to the general tolerance of 2 per cent.

PORT AND MUNICIPAL IMPROVEMENTS AT ROSARIO.

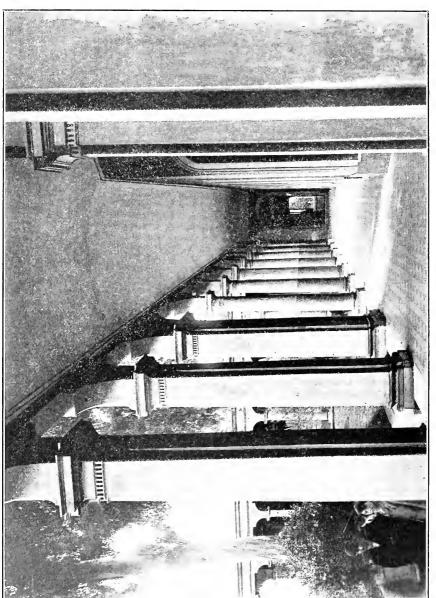
The port improvements inaugurated on a large scale at Rosario will, according to the report of the French company in charge, be completed and officially inaugurated by the close of 1909. The works are sufficiently advanced to provide berths for 15 vessels, and a channel of adequate breadth along the frontage has been dredged so that vessels drawing 24 feet may enter and clear with ease. The entire port can provide loading berths for about 40 vessels and for 20 to 25 to discharge.

The contract price for constructing the port was fixed at \$12,000,000, but it is estimated that, exclusive of grain elevators and other works which the same company is undertaking at a cost of about \$3,400,000, an expenditure of a much larger sum will be entailed. It is proposed, if the consent of the Argentine Government be obtained, to extend the moles on the north side of the city by uniting the National and Central Argentine wharfs, thus making the total length of wharfage aggregate about 3 miles.

In connection with the port works on the south side a large grain elevator, said to be the largest and best equipped in South America, has just been erected at a cost of \$1,000,000. Eight large vessels can be berthed alongside to receive grain in bulk or bag, and 1,000 tons per hour can be loaded, while grain can be received from the railway wagons at the rate of 500 tons per hour. Storage facilities of the best type and modern methods for handling, classifying, cleaning, drying, and weighing grain have been installed. The materials used in construction have been supplied principally from France, Germany, and The Netherlands.

An electric tram service is nearing completion in the city, several sections having been opened during 1907. The total extent of trackage is to be 75 miles, the total cost being \$3,600,000.

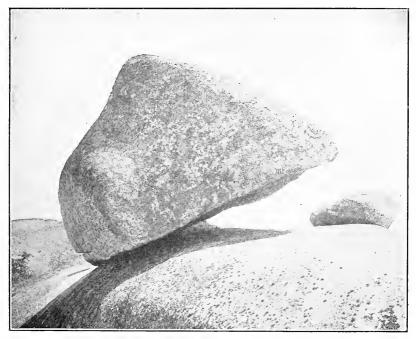
Waterworks and sanitary installations have been greatly improved under the direction of a British company, but the extension of the town calls for improved and extended sewerage works.



PATIO, SAN ROQUE HOSPITAL, BUENOS AIRES.

The city of Buenos Aires contains fifteen hospitals, six of which are primarily for the use of foreigners. There are also numerous other institutions for safe-garding public health, as well as associations of an eleemosynary and civil character for the physical uplift of the large cosmopolitan population of the capital.

Railway connections have been extended and a route opened up from the capital via Rosario to the northern limits of the Province of Santa Fe. On the Cordoba and Rosario line work is progressing and will probably be completed toward the end of 1908. This line will connect the narrow-gauge system with the interior, making it possible to travel via Rosario, Cordoba, Tucuman, and Jujuy to the most northern Provinces, almost to the Bolivian frontier. A new railway, financed by a French company, is to tap an important district of fertile land suitable for agriculture and stock raising, and



ROCKING STONE OF TANDIL, ARGENTINA.

The stone measures 13 feet in height by 16 in diameter and, apparently, is balanced on the crest of a huge mass of solid rock. The phenomenon is explained by the fact of a circular protrusion on the under side of the stone which, fitting snugly into a depression in the foundation, holds it in place. A strong wind causes it to oscillate perceptibly. This curiosity is 205 miles from Buenos Aires, on the main line of the Southern Railway.

connection is to be made between Rosario and Port Belgrano, at which latter point port works are to be erected. Other improvements have been made by the combined railway companies whose lines connect with Rosario.

The population of the city, according to latest statistics, is 160,000, the Rosario district ranking to that of Buenos Aires as the destination of immigrants arriving in the country.

Import valuations at the port of Rosario for 1907 are given as \$31,987,897, as compared with \$29,013,667 in the preceding year, the

exports for the two years figuring to \$36,506,992 and \$46,578,816, respectively. The total movement of the trade of the port in 1907 is given as 2,321,500 metric tons, against 2,862,393 in 1906.

IMPORTATION OF RAILWAY MATERIAL.

The railway material imported into the Argentine Republic during the first half of 1908 largely diminished, as compared with that of the same period of the preceding year. The decrease is due in part to the fact that there remained unused at the beginning of the present year an excess of construction material, rolling stock, and railway supplies imported in former years, and is probably only of a temporary nature, inasmuch as new railways are now being built and many of the old ones improved and extended. As this material is admitted free of duty, the revenues of the nation have not been affected from this cause. The following values, in gold, show the imports of railway material during the first halves of 1904 to 1908, inclusive: 1904, \$4,425,776; 1905, \$37,237,552; 1906, \$11,784,176; 1907, \$23,517,536, and 1908, \$14,071,624.

HARVESTS OF 1908.

The wheat reported for the Argentine harvest of 1907–8 shows a total of 5,238,705 tons, as compared with 4,245,434 in the preceding year, divided among the Provinces as follows:

Province.	1907-8.	1906-7.
Buenos Aires. Santa Fe Cordoba Entre Rios Pampa Central Various	Tons. 2, 505, 321 1, 019, 708 1, 183, 409 247, 796 207, 471 75, 000	Tons. 2, 330, 000 653, 377 849, 326 261, 731 80, 000 71, 000

The value of the Santa Fe and Cordoba crops is very evident, the two Provinces accounting for nearly three-fourths of the million tons increase noted.

The figures for linseed are as follows:

Province.	1907–8.	1906–7.
Buenos Aires. Santa Fe Cordoba Entre Rios Pampa Central Various	504, 734 110, 448 151, 410	Tons. 348, 643 288, 926 66, 425 116, 470 2, 800 2, 500
Total	1, 100, 710	825, 764

• ARGENTINE REPUBLIC•						
•WHEAT PRODUCTION•						
BUENC	S AIRES.	·COR	DOBA.	·SANT	A FE.	
1907-8	1906-7	1907-8	1906-7	1907-8	1906-7	
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1						
2.505.321 TONS	2.330.000 TONS	1.183.409TONS	849.326 TONS	1.019.708 TONS	653.377 TONS	
·ENTR	E RIOS .	·PAMPA C	ENTRAL.	·VARIO	ous.	
1907-8	1906-7	1907-8	1906-7	1907-8	1906-7	
247.796TONS	261.731 TONS	207.471 TONS	BO.OOOTONS	75.000 TONS	71.000 TONS	
		·LINSEED PE	RODUCTION.			
-SANT	A FE.	BUENO	S AIRES.	·ENTR	E RIOS .	
1	288.926TONS	324,306TON5	348.643 TOHS	151.410 TONS	116-470 TONS	
307-8	806-	(SO1-S	1906-3	907-8	906	
•COR	DOBA.	·PAMPA	CENTRAL.	·VARIO	ರಿ ಅತ್ಯ	
1907-8	(90E-)	2007-B	306-7	<u> </u>	19067	
IIO.448 TONS	66.425 TONS	7.012 TOHS	2.800 TONS_	2.800 TOHS	2.500 TOHS	

BRANCH LINES TO THE BUENOS AIRES AND WESTERN RAILWAY (LIMITED).

A law has been enacted by the Argentine Congress giving the Buenos Aires and Western Railway (Limited) the right to construct and exploit the following branch lines as a part of its railway system: An extension of approximately 100 kilometers (62 miles) of the railway from Toldos to Roberts and the fifth meridian to the western boundary of the first section of the Central Pampa; a branch from Las Toscas station toward the south to the western limit of the second section of the Central Pampa; a branch from or near Pehuajo station to Tres Lomas, and a branch which, intersecting the company's main line at Mercado Central de Frutas, terminates at Riachuelo. The gauge of the branch lines will be the same as that of the main line. Within twelve months from July 27, 1908, the date of the promulgation of the law referred to, the concessionaire must submit for the approval of the Executive power complete plans and estimates of each of the branches, and construction work must be commenced

within six months from the date of the approval thereof, the concessionaire being liable to a fine of 25,000 pesos (\$12,500) if the construction work is not finished within the time specified.

EXPLORATIONS IN PATAGONIA.

Dr. Sigfried Benignus, a distinguished German educator and a former professor in the University of Chicago, after a recent exploration trip made by him through the southern part of the South American Continent, although reporting a marked sameness in the outward appearance of Patagonia on both the Argentine and Chilean side of the peninsula as far as the islands of Terra del Fuego, never-



SANTA CRUZ RIVER, PATAGONIA, ARGENTINE REPUBLIC.

Argentine Patagonia is divided into several territorial divisions, the southernmost of which takes its name from the Santa Cruz River which traverses it from west to east through a sheep grazing country, emptying into the Atlantic Ocean near the port of Santa Cruz. This river preserves an average width of more than 800 feet throughout its course, with a current velocity of 6 miles an hour. The picture shows the camp of a United States meteorological expedition when making observations in this newly settled country.

theless finds a great many variations in the geologic structure, flora, and fauna of the country. Up to the present time, barring a few exceptions, only preliminary investigations have been made in these particular fields of study, so that, from a scientific point of view, there still remains much to be done in the examination of this interesting and largely unknown zone of the southern part of the Western Hemisphere. A special study has been made of the fossils of this region, and more or less conflicting theories have been advanced concerning them.

The Andes in this part of the continent are rich in minerals. Coal is found, though not of a good quality for fuel, due to the fact that it belongs to a comparatively recent geologic age. As to the petro-

leum of Patagonia, it can not be unfavorably commented upon, but, at the same time, no good reasons exist for too highly optimistic views concerning it.

Doctor Benichus, who is an eminent philologist, regrets that there is no complete history of Patagonia, and especially that no scientific study has been made of the language of the aborigines, the more so when it is borne in mind that some of the tribes seem destined to disappear within a few decades, such, for instance, as the Tehueleche Indians. In Chile, however, excellent investigations and studies have been made of the language of the Araucanian Indians by German missionaries, and the results of their labors have been given to the world.



TIGRE HOTEL, PROVINCE OF BUENOS AIRES.

Little Venice of Argentina" is the name given to the country in the vicinity of this hotel. The Hotel Tigre is a fashionable summer resort for the elite of Buenos Aires, located about 18 miles by railroad from that city, in the delta land of the La Plata River. Here are the head-quarters of the Tigre Rowing Club, one of the largest in the world.

As to the importance of Patagonia from an economic standpoint, it is stated that it is the country par excellence for the raising of sheep, horses, and cattle, and that not only the fertile valleys of the Territories of Rio Negro and Chubut are suitable for the growing of agricultural products, but that those of many other districts of that region are equally well adapted to this purpose. Large portions of Patagonia can be easily irrigated, and a great number of valleys at the foot of the Andes Range in that district are covered with luxuriant vegetation.

He found the climate of Patagonia excellent, notwithstanding the cold nights in winter, and the west winds which often blow with considerable violence over the treeless plains. The whole region is practically virgin, and most of the population now there consists of men.

Wherever there is a demand for labor in Patagonia the wages paid are good—higher even than they are in other parts of the Argentine Republic or in Chile. The inhabitants of southern Argentina are anxious for the construction of railroads into their rich and undeveloped territory, and are not only ready and anxious to cooperate in the promotion of railway enterprises in that section of the Republic, but are clamoring for the prompt building of railway lines. Where steamers touch on the eastern coast of southern Argentina good transportation service is afforded. Doctor Benignus believes that properly organized colonies of German agriculturists would be quite successful in southern Argentina and would become a powerful factor in the development of this fertile agricultural zone situated in the extreme south of the Western Hemisphere.

PUBLIC WORKS FOR THE CENTENNIAL OF 1810.

The President of the Argentine Republic has recommended that the Congress enact a law providing for the commemoration of the centennial of the revolution of May 25, 1810, which culminated in the resignation of the Spanish Viceroy Hidalgo de Cisneros and the establishment at Buenos Aires of a Provisional Board ("Junta Provisional") or Government. The outline of the celebration comprises the erection at the entrance of the port of Buenos Aires of a statue representing the Republic, with the following inscription: "Peace and liberty to all men who wish to inhabit Argentine soil;" the erection in the Plaza de Mayo of a commemorative monument to be selected by the National Centenary Commission; the construction of a National Pantheon, or Mausoleum, for the reception of the ashes of the great men of the country; the erection in one of the public parks of the capital of statues of Maraino Moreno, Bernardino RIVADAVIA, and Admiral Brown; the erection in the Plaza de San José de Flores of a statue of Puerredón; the erection in the Municipal Plaza of the capital of the Province of Buenos Aires of a monument to the "Cabildo de 1810" (Municipal Council of 1810), and the construction in the Campo de Mayo of an artificial mound, composed of the soil of that battlefield, mixed with earth brought from the battle grounds of South America where Argentine blood has been spilled, the mound to be surrounded by representations of the bravest troops in the War of Independence, and crowned by an allegorical scene of the patriot army sowing the seeds of liberty and harvesting the fruits of glory.



REVENUES COLLECTED IN 1907.

The revenues collected by the Government of Bolivia in 1907, according to a statement published by the Department of Finance in "El Estado" of July 24, 1908, aggregated 4,130,161.63 bolivianos (\$852,000). The principal items showing increases in the amounts, as estimated in the budget, were customs duties, consular invoices, corporations and mining companies, state telegraphs, patents and trade-marks, post-office boxes, stamps, university entrance and graduating fees, and tax on liquors. The principal items showing a decrease, as compared with the estimates of the budget, are tin, copper, bismuth, gold, rubber, alcohol, mortgage drafts, rubber lands, mining licenses, sealed paper, document stamps, public lands, mining plans, and the Guaqui Railway. The excess of the budget in 1907 over the revenues collected was 416,649.23 bolivianos (\$166,640).

ANALYSIS OF SARA PETROLEUM.

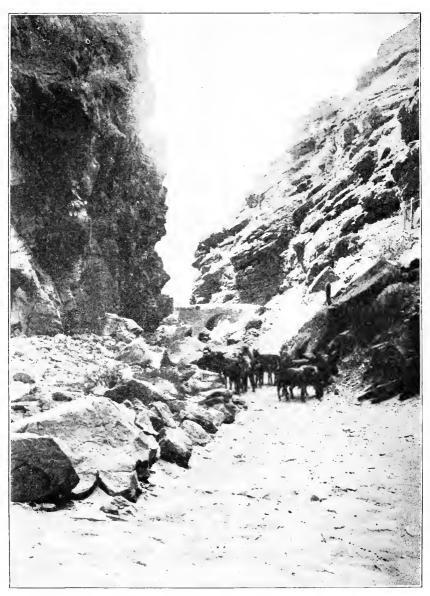
The Bolivian Minister of Colonization and Agriculture, some months ago, sent samples of petroleum from the Province of Sara to be analyzed by expert chemists in the United States, who were to report on its chemical composition and industrial qualities. The report received by the Bolivian Government shows that the oil is of first-class quality and it is possible that the petroleum district of the Republic may become a source of national prosperity.



SANTOS COFFEE STATISTICS.

The coffee market at Santos for the twelve months from July 1, 1907, to June 30, 1908, as compared with the preceding fiscal year shows the following movement:

	1906–7.	1907-8.
Shipments	Bags. 15, 302, 170 13, 845, 918 (a) 2, 855, 290	8, 423, 132



SAN BARTOLOME MOUNTAIN PASS, POTOSI, BOLIVIA.

There are a number of natural passes in the Bolivian Andes, most of them at an imposing height, affording access from one section of the country to the other.

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In the four principal foreign markets the transactions of sales and resales amounted to 27,133,000 bags, distributed as follows: New York, 10,151,000; Havre, 10,370,000; Hamburg, 5,563,000, and London, 1,049,000 bags.

NEW BRAZILIAN LOAN.

In conformity with the law of December 3, 1907, and the decree of July 1, 1908, the subscription to the £4,000,000 Brazilian loan was opened on July 23, 1908, and closed on the following day. In accordance with the conditions prescribed, the bonds are in denominations of £100, £500, and £1,000, are payable to bearer, and draw interest at the rate of 5 per cent per annum. The interest is payable semiannually in London, Paris, and Amsterdam on January 1 and July 1 of



each year. The issue was made at the rate of £96 per £100 of nominal value. The bonds are redeemable in nine years and in nineteen semimonthly drawings.

STATUS OF THE COFFEE LOAN AND VALORIZATION.

The financial committee of the Legislature of the State of São Paulo has approved the bill creating an additional duty of 20 per cent ad valorem on export coffee exceeding \$9,500,000 bags in 1908 and 10,000,000 bags in the following years. The bill also has authorized a loan of £15,000,000, secured by coffee belonging to the State.

Following is a translation of the text of the new São Paulo law authorizing the increase in the surtax on coffee, the limitation of exports, and the new £15,000,000 loan:

ARTICLE 1. An additional tax of 20 per cent ad valorem in the form established by law shall be levied on all coffee exported from the State exceeding 9,000,000 bags during the present crop year, exceeding 9,500,000 bags as from

July 1, 1909, to June 30, 1910, and exceeding 10,000,000 bags in succeeding years.

ART. 2. The surtax established by article 29, of law No. 984, of December 29, 1905, levied on all coffee exported from the State shall be raised to 5 francs or its equivalent in currency, calculated at the official rate of exchange of the day.

ART. 3. The Government of the State is hereby authorized to proceed at once to raise a foreign loan not exceeding £15,000,000 to complete the measures necessary for the defense of coffee and to consolidate all loans undertaken for this purpose.

Par. 1. The loan about to be contracted shall, in addition to general guaranties, enjoy the collateral guaranties of the coffee bought and still held by Government, and the product of the surtax referred to in the preceding article.



MUNICIPAL PALACE, RIO DE JANEIRO.

This edifice, built in 1882, is regarded as one of the finest structures of the capital. It is situated on Republic avenue, named in honor of the proclamation of Brazilian independence. The municipal affairs of Rio de Janeiro are administered by a council elected by the citizens of the district. The executive authority is exercised by a prefect, or mayor, appointed for four years by the President of the Republic.

Par. 2. The product of the sales of coffee belonging to the State, which shall be effected as occasion offers, shall be applied to amortization of the loan contracted in virtue of this authorization.

Par. 3. Government shall introduce into the contract the conditions of interest, amortization, type, duration, exemption from taxes, and such others as it may deem advisable.

ART. 4. All dispositions to the contrary are hereby revoked.

The following are the leading points of the message of the President of São Paulo in regard to the coffee valorization status:

The maximum yield has now been reached from the present coffee plantations, and this maximum, according to the record of the past four crops and the

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actual state of the plantations, should, on the understanding that the law restricting plantation remains in force, in future years provide an average yield of 10,000,000 bags. Estimating the yearly average production of the remaining Brazilian States and other producing countries of the world at 7,000,000 bags, which is to a certain extent confirmed by statistics covering the past five years, it may safely be said that the world's output during the next ten years will average about 17,000,000 bags. It is therefore evident that the crisis due to overproduction is effectively conquered, as the production is positively limited to the producing capacity of the existing plantations, whereas, on the other hand, consumption is constantly and progressively increasing, and at present there are no indications of a possible interruption of this favorable reaction, which can only augment as the legitimate fruits of the present vigorous propaganda campaign recently initiated in several countries. Under these cir-



CITY OF OURO PRETO, BRAZIL.

This old city was founded in 1698, and until 1897 was the capital of the State of Minas Geraes. For two centuries it was better known in Portugal than Rio de Janeiro, as being the greatest center of wealth in Brazil. Railroad connection with Rio has been established, with the result that the old capital is being rapidly transformed into a modern city.

cumstances, and having overcome the originating elements of the crisis, it is, however, necessary to admit that the situation is not what it should be since the value of coffee is maintained at a basis which does not remunerate production, and this is mainly due to the varying output of the plantations, as well as to the surplus stocks carried forward from previous seasons, and the greater part of these at present are held by the Sao Paulo Government.

From the foregoing summary of the situation it is evident that two important measures should be adopted and executed, the first of which consists in regulating the exports, which should be fixed at 9,000,000 bags for the current year, 9,500,000 bags for the second year, and at 10,000,000 bags for the following seasons. When the clearances reach these limits a sufficiently high tax will be charged on shipments to render further exports prohibitive. The second measure refers to the convenience of providing the Government with ample funds to keep its stocks out of the market as long as the coffee does not rise in value and is not required for consumption. For this purpose it is indispensable

that an additional surtax of 2 francs should be decreed on all coffee exported from the State. The present 3 francs surtax is not sufficient to cover all expenses in connection with the State's holdings. As circumstances advise the necessity of keeping the Government's stock out of the market in order to insure success, it is obvious that the Treasury should be furnished with the necessary funds to meet corresponding obligations with due punctuality, as well as to enable the consolidation of the existing loans which were contracted to defend the State's production; therefore the Government submits to the consideration of Congress the convenience of contracting a new loan of £15,000,000, which will be guaranteed by the coffee held by the Government and the revenue forthcoming from the augmented surtax. Collections proceeding from sales of coffee are to be applied to the amortization of the debt.

It is reported that the new £15,000,000 coffee valorization loan has been subscribed as follows: New York, through the City Bank, is to take £2,000,000; London, £5,000,000; Paris, £5,000,000; Hamburg, Berlin, and Brussels, £3,000,000 between them.

THE PORT OF SANTOS IN 1908.

The Santos imports for the five months of 1908, according to figures of the Brazilian Bureau of Statistics for that city, were \$15,401,980, as compared with \$16,508,526 in 1907. The imports by countries were:

Country.	1907.	1908.	Country.	1907.	1908.
Germany Argentine Republic Austria-Hungary Belgium United States	2, 283, 567 205, 746 513, 269	1,920,780 196,865 565,037	France Great Britain Italy Portugal Other countries	4, 163, 666 1, 565, 164 833, 348	\$996, 190 3, 934, 347 1, 633, 487 564, 213 1, 124, 671

The loss of the United States so far in the year, accordingly, has been greater than the average loss. The imports by principal items were as follows:

Article.	1907.	1908.	Article.	1907.	1908.
Cotton and cotton goods. Iron and steel, manufactured and not manufactured. Industrial machinery. Agricultural machinery and utensils. Chemical and pharmacturial products. Leathers.	1,719,997 219,962 73,074 199,456 354,682	\$1,139,536 1,899,762 507,542 94,582 1,133,673 304,878 300,390	Jute Coal Kerosene Rice Codfish Flour Wheat Wines Other foodstuffs Money and specie	\$936, 408 731, 770 359, 535 42, 092 399, 616 1, 081, 952 1, 057, 989 1, 310, 671 1, 193, 282 214, 127	\$482, 347 492, 956 260, 936 4, 996 380, 821 536, 832 1, 332, 536 1, 108, 186 1, 098, 472 9, 590

The story of exports is, of course, told in the figures for coffee. The total exports for the period this year were \$26,204,858, as compared with \$43,193,665 in 1907. The principal items are:

Article.	1907.	1908.	Article.	1907.	1908.
Coffee			Mangabeira rubber Bran	\$55,918 28,421	\$16, 484 75, 719

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The amount of coffee exported from Santos during the period reviewed was 2,657,411 bags, as compared with 4,774,059 bags in 1907. The exports by countries were:

· Country.	1907.	1908.	Country.	1907.	1908.
Germany Argentine Republic Austria-Hungary Belginm United States	370, 795 957, 141 9, 109, 492	342,610 1,110,953 1,145,311	Great Britain Holland Italy	2,325,464 3,204,228 212,176	\$2,416,692 134,206 3,024,938 296,589 465,016

The notable increase in the exports to the United States, in spite of the general decrease in exports and the decreased imports from the United States, even greater than the decrease in general, is quite in keeping with the general commercial relations of the two countries.

The total value of the fo eign commerce of the port of Santos during the first six months of 1908 amounted to \$54,998,571.27, of which \$21,015,478.31 were imports and \$33,983,092.96 exports.

Among the principal products exported were 3,431,144 bags of coffee; salted hides, rubber, and bran.

Vessels arrived to the number of 751, with a tonnage of 1,708,460, and departures of 743, with a tonnage of 1,725,588.

THE TEXTILE INDUSTRY.

Figures recently published by the "Diario Oficial," of Brazil, indicate that substantially one-third of the entire industrial capital of the country is invested in cotton mills, while the total annual output of the local manufactories of all kinds is less than the imports of foreign goods. While the proportion of the commercial life of the country represented by industrial enterprises is very small, the actual increase in industries shown by them is notable, and in some lines even remarkable. The "Diario Oficial" gives as the total number of industrial enterprises now registered in Brazil (and none can operate without being registered), together with the number of employees and financial data, as follows:

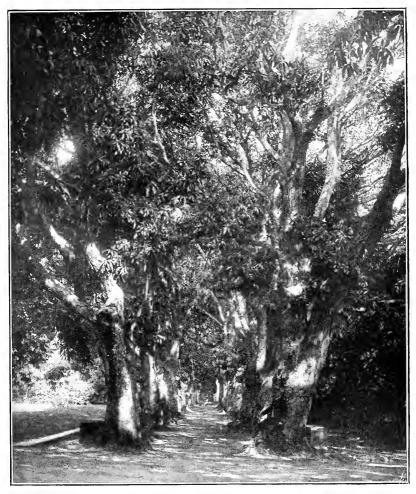
State.	Establish- ments.	Employees.	Capital.	Annual production.
Alagoas	21	3,092	\$2,010,900	\$2,260,800
Amazonas Bahia	72	322 9, 929	542, 100 6, 667, 500	914, 100 7, 488, 600
Ceara	18	1, 207	1,056,300	888,000
Federal District.	584	30, 490	42, 582, 000	61, 598, 700
Espirito Santo	4 17	90	89, 400	173, 400
Maranhão	551	4,550 8,849	3, 758, 700 7, 453, 800	2, 178, 900 10, 849, 800
Para		1,411	2,394,900	3,873,300
Parahyba	31	1,104	915,000	1, 277, 400
Parana	79	2,467	3,618,900	4,532,400
Pernambuco	9 5	11,222	16,283,400 $260,400$	10, 632, 000 327, 600
Rio Grande do Sul	212	10, 490	11, 434, 500	23, 486, 100
Rio de Janeiro	190	11,719	25, 033, 200	15, 896, 100
Santa Catharina	125	1,692	2, 184, 000	3,093,900
São Paulo. Sergipe.	323 21	23,007 1,563	34, 446, 600 1, 685, 100	35, 213, 100 1, 584, 600
Piauhy	3	355	402,000	364, 500
Total		123, 931	162, 818, 700	186, 633, 300

Of the number of factories indicated, those in the States having larger cities, notably the Federal District, São Paulo, Bahia, Pernambuco, Para, and Rio Grande do Sul, include a large number of miscellaneous establishments like furniture factories, manufactories of candles, soap, beer, chocolate, paints, shoes, hats, clothing; in fact all of the smaller and more common establishments common to any city.

The list includes sawmills and carpenter establishments and a similar class of concerns not ordinarily counted as industrial establishments, embracing all millinery and similar places, paper-consuming establishments, printing offices, artificial flower factories, and the like. São Paulo and Rio Grande contain meat and fruit packing establishments, Rio de Janeiro and São Paulo flour mills; a number of the States contain notable sugar establishments, and in general there are in nearly all the States such small establishments as may reasonably be looked for. But the only industry that in any measure approaches national importance is that of cotton manufacturing. The number of cotton factories in the several States, with other data relating thereto, is given as the following:

State.	Mills.	Employees.	Capital in- volved.	Production in meters.
Federal District.	10	8,300	\$17,400,000	76,000,000
Rio de Janeiro	15	6,400	10,800,000	46,000,000
São Paulo	25	7,000	9,000,000	40,000,000
Minas Geraes	30	3,200	3,840,000	18,000,000
Ceara	4	680	570,000	3,660,000
Rio Grande do Norte	1	300	210,000	1,600,000
Parahyba	1	513	452, 400	2,900,000
Sergipe	2	800	1,125,000	[4, 350, 000]
Pernambuco	5	2,900	4,590,000	22, 400, 000
Bahia	11	4,000	4,680,000	29,000,00
Alagoas	5	1,850	1,386,000	1,500,00
Maranhão	10	3,630	2,955,000	1,500,00
Piauhy	1	290	507,000	1,200,00
Santa Catharina	12	150	414,000	1,000,00
Parana	3	25	13,500	9,60
Rio Grande do Sul	2	980	1,740,000	2,000,00
Total	137	41,018	59, 682, 900	251, 119, 60

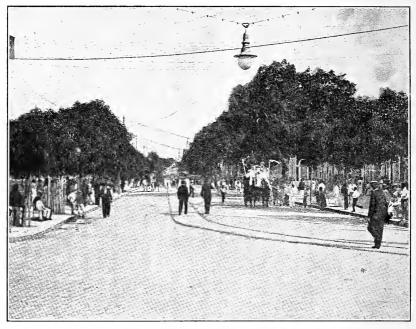
Of the total capital invested in Brazilian industrial establishments, over 36 per cent is represented by cotton factories. In view of the fact that a large number of establishments are included in the list of industrial concerns given, which in the United States would hardly be regarded as industrial, the actual percentage of the industrial life of Brazil, according to American standards, held by the cotton industry, is much greater. The cotton mills of Brazil are unquestionably its most prosperous industry—the most prosperous line of business of any sort in the country. Practically all of them are increasing their output and all of them are paying large dividends. Factories like the Industrial Mineira of Rio de Janeiro, the Mageense Fiação & Tecidos, and the Manufactora Fluminense of Rio de Janeiro, and the Paulistiana of São Paulo pay about 25 per cent per annum



MANGO TREES, BOTANICAL GARDEN, RIO DE JANEIRO, BRAZIL.

This highly useful tree was introduced into Central and South America by colonists in the eighteenth century from southeastern Asia. It is now raised extensively throughout the tropical zone. The foliage is very dense and affords protection from storm and rain. The fruit is highly prized, both for its food value and the cosmetical and medicinal properties it possesses.

on an average. Exceptional factories like the Progresso of Rio de Janeiro pay more, this factory paying about 22 per cent on capital trebled in a few years out of its earnings, something like 66 per cent on the original capital. Such figures are taken at random and are characteristic of the business. The custom is to pay the directors of such businesses well and to carry large reserve funds. The entire business of cotton manufacture rests upon the exceedingly high tariff rates on cotton imports in Brazil, which have been discussed from time to time in reports from this consulate general. In general,



REPUBLIC AVENUE, BELEM (PARA), BRAZIL.

This spacious avenue is one of many radiating from the public square of the same name on the site of the old Largo do Polvora, or Powder Storage House of the colonial days. On the establishment of a Republic the name was changed to Praça da Republica, the square greatly improved, and a system of avenues established, all converging to it at a center. Although situated under the equator, Belem is one of the most beautiful places of residence in northern Brazil, the mean annual temperature being about 80° Fahrenheit. During the hottest part of the day the cooling sea breeze is strongest.

owners of industrial property in Brazil demand large returns upon their investments.

SERICULTURE IN SÃO PAULO.

The Brazilian State of São Paulo is reported to be making progress in the growing of mulberry trees and the culture of the silkworm.

Samples of native silk of magnificent texture have been exhibited at local fairs and the State government has offered prizes with a view to encouraging the industry. A silk spinning and weaving mill has been operating successfully for some time at Villa Prudente in the BRAZIL. 729

environs of the city of São Paulo, and the high protective duties imposed favor the local development of sericulture.

RAILWAYS IN OPERATION AND UNDER CONSTRUCTION.

According to statistics of recent issue by the Brazilian Department of Public Works, the total length of railways in the Republic in traffic on January 1, 1908, was 17,605 kilometers (nearly 11,000 miles). Under construction were 3,312 kilometers, while plans had been approved for the building of 6,680 kilometers more, making a total of 27,597 kilometers.

PORT WORKS AT PERNAMBUCO.

The contract entered into between the Government and Messrs. Edmond Bartissol and Demetrio Ribeiro for the execution of improvement works at the port of Pernambuco was approved by Executive decree of July 2, 1908.

The works comprise a breakwater to be constructed on the line of reefs that form the port, 1,147 meters in length, and quays with 10 meters depth of water alongside at low tide. The contractors are required to deposit \$60,000 as security on or before July 31, 1909, and the value of the work to be done semiannually must be equivalent to one-tenth of the total value of the contract.

The works will be paid according to schedule prices in Brazilian bonds amortizable in fifty years of value of \$100 each, secured by a special tax of 2 per cent gold levied on the official value of imports from foreign countries in the State of Pernambuco, as also by the net revenues of the port and docks themselves. The issue of bonds can not exceed \$16,800,000, of which \$8,000,000 are covered in the first issue immediately upon the signing of the contract.

A deposit against the delivery of the bonds of \$7,220,000, or its equivalent, is required of the contractors at the disposition of the Federal Treasury in London or elsewhere within sixty days of the date of the decree authorzing the contract, in default of which the contract is to be declared null and void.

COLONIZATION IN SÃO PAULO.

The "Universal Cooperation Brotherhood," of San Francisco, United States of America, is in treaty with the São Paulo State Government for the purchase of a large tract of land to be devoted to the founding of a large colony in the State.

According to its president, Mr. John Albertus, the brotherhood has already 1,600 members, the majority of whom are Scandinavians, Finns, and Germans who are disposed to leave the United States to

settle in Brazil. The organization is based upon mutual aid, mutual work, and equal rights to the profits.

Possessing the necessary funds and most modern agricultural appliances, it is the intention to found a model colony, in which each member will devote his best energies to the common welfare for a certain number of years, during which he will be afforded the necessary comforts to lead a peaceful life.

After the stipulated time of personal service has been completed each member is entitled to life pension of no less than \$1,000 per annum.

After the colony has been started Brazilian members will be admitted in the proportion of 25 per cent of the total membership.

THE STATE OF BAHIA AND THE MINING INDUSTRY.

The State of Bahia, which is the richest of Brazilian States in mineral deposits, framed a mining code in 1907 designed to stimulate the promotion of this important branch of national industry. In the promulgation of these regulations the State Government made liberal provision for the rights of landowners, but at the same time provided the necessary impetus for the exploitation of the mineral resources of the property either by the holders or possible lessees.

Old Portuguese records fix the annual gold product of the country at over \$5,000,000 annually, a large proportion of which was obtained from Bahia, while the 1,700 tons of monazite sand and the 16,000 tons of manganese ore shipped from the State in 1907 demonstrate its possibilities in these lines.

The official value of diamonds and carbons exported from Bahia in 1907 is given as equivalent to \$50,000, but it is more than probable that this amount represents but a very small proportion of the total value of these articles mined and exported.

JAPANESE COLONIZATION IN THE REPUBLIC.

The first lot of Japanese immigrants arriving in Brazil under the arrangement concluded between the Japanese and Brazilian Governments landed at Santos, for the State of São Paulo, on June 18, 1908.

The party consisted of 781 persons and arrived in the Japanese ship *Kasato Maru* something less than six weeks out from Yokohama. Within two days all were distributed among the coffee plantations in the State of São Paulo, where they will work in coffee for the current crop. At the end of the coffee-picking season they will be distributed among several "nucleus colonies," or subsidized communities founded by the government of the State, and it is proposed to devote their labor practically exclusively to rice culture. Further shipments of

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immigrants are expected regularly until the total will reach well into the thousands under present contract arrangements.

The transportation company having the matter in charge projects the formation of a South American association with a very wide field of enterprise, the purpose of which is the promotion of commercial, industrial, and social intercourse between Japan and the States of South America.



FOREIGN COMMERCE FIRST HALF OF 1908.

The foreign commerce of the Republic of Chile for the first half of 1908 was 284,311,423 pesos (\$94,770,474), made up of imports and exports valued, respectively, at 139,176,672 pesos (\$46,392,224), and 145,134,751 pesos (\$48,378,250). The following is the value in Chilean pesos of the imports and exports in detail:

IMPORTS.	
Animal substances	8, 697, 899
Vegetable substances	11, 799,734
Mineral substances	25,603,769
Textile fibers and manufactures thereof	30, 909, 876
Industrial oils, bitumen, and fuels (coal)	22, 220, 702
Paper, cardboard, and manufactures thereof	4, 066, 673
Beverages and liquors	1, 738, 557
Perfumery, pharmaceutical and chemical products	2, 915, 439
Machinery, instruments, tools, etc	29, 286, 901
Arms, ammunition, and explosives	1,040,132
Miscellaneous	896. 990
	139, 176, 672
EXPORTS.	
Animal products	4, 181, 364
Vegetable products	
Mineral products	126, 087, 551
Beverages and liquors	98, 761
Coins	110,800
Miscellaneous	509, 949
Manufactured products	
	145, 134, 751

Arenas.

The foregoing figures do not include the exports through Punta

RECEIPTS AND EXPENDITURES FIRST HALF OF 1908.

The revenues of the Republic of Chile during the first half of 1908 were 191,600,589.04 pesos currency, and 59,808,670.61 pesos gold, while the expenditures for the same period amounted to 143,253,451.65 pesos currency and 22,270,817.87 pesos gold, leaving a balance on hand July 1, 1908, of 48,347,137.39 pesos currency and 37,537,852.74 pesos gold. During the six months referred to the receipts from custom-houses, posts and telegraphs, mintage, treasuries, railways, and special entries were 80,191,631.69 pesos currency and 33,110,865.35 pesos gold.



HOME OF THE AMERICAN CONSULAR AGENT, PUNTA ARENAS, CHILE.

Punta Arenas, the southernmost city in the world, is situated on the mainland of South America nearly midway between the Atlantic and Pacific oceans. Its importance as a port of call for vessels passing through the Strait of Magellan is further enhanced by serving as a distributing point for the southern part of Chile. It is lighted by electricity and has public waterworks, two plazas, a hospital, two theaters, and several schools.

SAVINGS BANK DEPOSITS FIRST HALF OF 1908.

On December 31, 1907, there were 174,791 persons with deposits in the savings banks of Chile, representing \$19,966,774.61, while on June 30, 1908, the number of depositors had risen to 198,419 and the deposits to \$22,876,141.65, or an increase during the first six months of 1908 of 23,628 depositors and \$2,909,367.04 in the amount of the deposits. The following table shows the depositors and deposits in detail on December 31, 1907, and June 30, 1908:

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Cities.	December 31, 1907.		June 30, 1908.	
	Depositors.	Deposits.	Depositors.	Deposits.
Iquique Antolagasta La Serena Valparaiso Curico Talca Chillan Concepcion Temuco Valdivia Punta Arenas	11,747 576 35,337 876 7,349 8,114 13,257 591 5,657	\$1, 786, 485. 51 1, 641, 751. 28 77, 166, 74 4, 588, 439. 52 52, 565. 34 731, 321. 53 542, 327. 72 1, 035, 493. 52 28, 568. 14 471, 486. 41	17, 341 13, 491 2, 497 38, 018 2, 828 8, 248 9, 281 15, 606 4, 028 6, 917 1, 497 78, 667	\$2, 272, 223. 2 2, 072, 361. 9 280, 442. 6 4, 763, 126. 7 296, 868. 4 817, 829. 0 658, 478. 1 1, 386, 116. 9 171, 790. 0 519, 741. 2 272, 156. 4 9, 375, 006. 9
Total	<u> </u>	19, 966, 774. 61	198, 419	22,876,141.6

NATURAL GAS AND PETROLEUM DISCOVERED.

Petroleum and natural gas have been discovered in the township of Carelmapu, in the Province of Llanquihue, Chile, about 500 miles south of Valparaiso.

Enough gas pressure has been secured to run a cook stove, a heating stove, and two gas jets at one time. Soundings have been made to the depth of 500 feet with good results. It is proposed to put down a well to the depth of 3,000 feet in order to determine what may be expected. This discovery is made in the vicinty of a fairly rich goldmining district, and not very far from the site of the extensive steel works being built near Corral.

STOCK RAISING IN THE TERRITORY OF MAGELLAN.

The Territory of Magellan, Chile, the southernmost political division of the Republic, is an excellent field for stock breeding. This extensive Territory, comprising about one-fourth of the total area of Chile, contains, approximately, 48,000,000 acres of land, and owes its present prosperity principally to sheep breeding and the working of its placer mines.

The climate of the Territory of Magellan varies greatly, being cold in the far south, and temperate and invigorating in its middle and northern zones. Parts of the Territory, especially the southern portions, are heavily wooded, and the damp and humid climate of this part of Chile produces an abundant, vigorous, and luxuriant vegetation, and causes the formation at some places on the coast of considerable deposits of turf. The southernmost points of Chile, with the exception of some dry lands near the frontier of the Argentine Republic, is unsuited for stock raising, but the southern, middle, and northern sections of the mainland of the Territory of Magellan are well adapted to the raising of stock.

The breeding of sheep, which is now the largest and most prosperous industry of the Territory, dates back to 1876, when Governor Dublé Almeida brought from the Falkland Islands the first consignment

of sheep for breeding purposes to this part of the Republic. Notwithstanding the unpromising results of the earlier efforts at sheep raising in the Territory of Magellan, this industry was soon established on a firm footing, and has been increasing by leaps and bounds from that date to the present time.

In 1884 the Government conceived the plan of leasing to private persons or companies tracts of from 2,000 to 30,000 hectares (5,000 to 75,000 acres) of Government lands for terms of from five to twenty years to be devoted to stock raising, and 531,267 hectares (1,312,000 acres) were leased during that year. Subsequently new concessions were made, until, in 1896, about 3,000,000 hectares (7,413,000 acres) were disposed of in this part of Chile to be used in the stock-raising industry. In 1903 a law was passed permitting the sale of Government lands in the Territory of Magellan, and the first sale at public auction of 800,000 hectares (1,976,000 acres) brought an average price of 5.41 pesos (\$1.97) per hectare (2.471 acres). The remaining public lands in the Territory of Magellan, consisting of about 1,756,862 hectares (4,341,000 acres), and which were sold at public auction from 1904 to 1906, were disposed of at an average of 7.27 pesos (\$2.65) per hectare (2.471 acres).

It is estimated that there were 1,873,709 head of sheep, 37,804 head of horned cattle, 23,888 head of horses, 827 hogs, 122 mules, and 33 goats in the Territory of Magellan in 1907. The exports of wool through Punta Arenas in 1905 consisted of 5,280,745 kilograms (11,616,000 pounds), valued at 5,197,320 pesos (\$1,897,000), as compared with 7,495,190 kilograms (16,500,000 pounds), valued at 8,244,709 pesos (\$3,009,317) in 1906. Practically all of the wool and hides shipped from southern Chile in 1906 went to Great Britain, Germany, and Belgium, the former country receiving about four-fifths of the entire output of these two products.

Several industries closely allied to and depending upon stock raising are at present being exploited in the Territory of Magellan. In 1906 there were seven tallow factories in the aforesaid Territory, having a capital of 425,000 pesos (\$155,125), with an annual output valued at 1,930,000 pesos (\$704,405). There are two refrigerating plants in the Territory. The one at Rio Seco has a capital of 1,500,000 pesos (\$547,500). In 1907 this plant exported 120,000 frozen wethers. The factory at Punta Delgada, belonging to the "Stock Raising Company of Magallanes" (Sociedud Ganadera), is the only meat-canning establishment now in operation in the Territory. The capital invested in this plant is 700,000 pesos (\$255,000). There are also stearin, soap, salted meat, and ham factories in the Territory.

The climate is so mild and the temperature so even in the stock-growing section of Magellan that the herds can remain day and night

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in the pasture the year round without suffering injury. In the sheep industry no country yields such a large proportion of lambs—115 to 120 for each 100 ewes—as does Chile, while at the same time the wool produced is fine and of a strong fiber. At the present time many of the flocks belong to subjects of Great Britain, who were pioneers in the stock-raising industry in the Territory of Magellan. Some idea may be had of the fortunes arising out of sheep breeding in southern Chile when it is remembered that persons engaging in this occupation with a capital of \$6,000 to \$10,000 ten or fifteen years ago are now the owners of flocks of from 60,000 to 90,000 sheep.

The raising of horses is a profitable industry in the Territory of Magellan. The Chilean horse is a descendant of the Andalusian breed, is hardy, docile, intelligent, and vigorous, and, it is said, is capable of doing more work on less food and with less care than the European or American horse. Chilean cavalry horses are taught to lie down at the word of command, the cavalrymen using them as rests for their rifles, the animals remaining motionless until after the firing is over and rising again to their feet at the word of command. Because of these qualities Chilean horses are highly esteemed for the light cavalry service of the armies of modern times. In Chile a young horse of from 2 to 4 years old, of average quality, is worth from \$20 to \$30, and a horse of the best class and of the same age from \$60 to \$70. During the last twenty years the equine race in Chile has been improved by the introduction of stallions from England, Germany, and France.

SHOE AND LEATHER INDUSTRY.

The manufacture of shoes in Chile by machinery is increasing rapidly. A short time ago the first shoe factory employing machinery was opened at Valdivia, and now there are twenty-two well-equipped factories of various sizes located in different cities of the country. A large percentage of the shoe machinery in use in Chile is from the United States. France comes next, followed by England.

There are still in the country a large number of shoe shops where from ten to a dozen men are employed making shoes by hand. The wages paid these men are small, being from 50 to 80 cents per day.

Practically all the cheaper shoes worn in Chile are made in the country from native tanned leather. This is the class of shoes generally worn by the working class and farmers. Shoes retail at from \$1.20 to \$1.50 United States gold, and a better grade made from native leather for dress shoes from \$2.50 to \$2.75. Then come those with imported uppers and native soles, which is a very good shoe. The uppers will generally wear out two or three soles, for the sole leather is of an inferior quality. This grade of shoes retails at \$4 to \$4.75.

Shoes were imported during the year 1907 to the value of \$127,609, of which the United States furnished \$11,477, against \$61,142 for England, \$29,617 for France, and \$17,218 for Germany.

CONCEPCION TO TALCAHUANO ELECTRIC RAILWAY.

The electric railway from Concepcion to Talcahuano, Chile, has been completed, and was opened to public traffic in July of the present year.



TREATY OF AMITY, COMMERCE, AND NAVIGATION WITH JAPAN.

On May 25, 1908, the Ministers of Colombia and Japan, accredited near the Government of the United States, in representation of their respective countries, signed, in the city of Washington, a treaty of amity, commerce, and navigation, subject to approval in due form by the Governments of the countries in interest. The treaty is signed in duplicate in Spanish, Japanese, and English, and in case of differences of interpretation, the English text is to govern.

MEASURES OF THE CONGRESS OF 1908.

The Colombian Congress adjourning in August has issued a statement relating that Colombia has adopted a treaty of friendship and commerce with Japan, another with Switzerland, a commercial and industrial treaty with Great Britain, and a fiscal convention with the Holy See. There has been approved also a sanitary convention with the United States, a customs tariff for the Republic, and a project that the national assembly meet every twelve months.

APPROVAL OF BOUNDARY TREATY BETWEEN COLOMBIA AND ECUADOR.

The additional convention to the boundary treaty between Colombia and Ecuador of May 24, 1908, signed on July 21 of that year by the representatives of the two countries, was approved on August 14, 1908, by the Congress of Colombia, and was duly promulgated by the President of the Republic on that date.

NEW POLITICAL DIVISIONS.

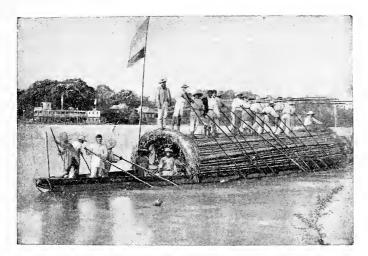
A law promulgated on August 11, 1908—effective January 1, 1909—abolishes the present political divisions of Colombia, and di-

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vides the Republic into thirty-four Departments, each of which, when the law becomes operative, must pay its revenues into the Federal Treasury. The law also provides for the distribution of the property of the extinguished political entities among the municipalities of the new Departments. The Federal District, in which the capital of the Republic is situated, is not affected by this law.

FOREIGN RELATIONS OF THE REPUBLIC, JULY, 1908.

In the July, 1908, report of Señor Francisco José Urrutia, Minister of Foreign Relations, to the National Congress assembled in Bogota, the Minister calls attention to the able manner in which Señor Don Enrique Cortes, Envoy Extraordinary and Minister



CHAMPAN ON THE MAGDALENA RIVER, COLOMBIA.

This craft is in use on the upper Magdalena River. The champans sometimes traverse the entire length of the Magdalena from Paez, a town 600 miles inland, to Barranquilla, near the river's mouth. These boats are long and narrow, with a bamboo covering, circular in form, affording protection from sun and rain. From 15 to 18 men are required to push one of these crafts against the stream.

Plenipotentiary of Colombia near the Government of the United States in Washington, has filled the delicate duties of his post, relating to many of the most important international questions of Colombia, by fostering and maintaining the most cordial and amicable relations between the Governments of the two countries. The report states that the Legation in Washington has instructions to endeavor to include in a new treaty to be negotiated with the United States the most favorable conditions possible, in so far as concerns the interest of Colombia, with respect to traffic through the Panama Canal when that great artery of international trade is opened to the commerce of the world.

Mention is made of the valuable cooperation of Mr. Elihu Root, Secretary of State of the United States, in obtaining the return to Colombia of the sum referred to in article 2 of the contract concerning the concession for the opening of a canal through the Isthmus of Panama, celebrated on March 20, 1878, between the Republic of Colombia and Mr. L. B. Wyse. The amount in question was deposited in London, and netted the Government of Colombia, after deducting the part corresponding to the new canal company, £24,000. The mutual spirit of good will manifested by the representatives of both Governments during the progress of the negotiations is referred to by the Minister of Foreign Relations in his report to the Congress.

Referring to the resolutions of the Second and Third Pan-American Conferences, held in Mexico and Rio de Janeiro, respectively, the Minister recommends the ratification by the Congress of the following conventions, signed by the delegates of Colombia at the Third International Conference of American States: On pecuniary claims; on establishing the status of naturalized citizens who again take up their residence in the country of their origin, and the convention relating to patents of invention, drawings and industrial models, trade-marks, and literary and artistic property.

The convention on international law, adopted by the Rio Conference, has been approved by the Government of Colombia, and the latter, in conformity with the terms of that convention, intends to send a delegate of the Republic to Rio de Janeiro on May 10, 1909, for the purpose, in conjunction with the other delegates of the signatory powers, of forming a Code of International American Law.

One of the resolutions of the Third Pan-American Conference, held in Rio de Janeiro in 1906, recommends the appointment, by the respective Governments, of Pan-American committees, under the direction of the Department of Foreign Affairs, and in accordance with this recommendation the Government has appointed Señor Vázquez Cobo, ex-Minister of Foreign Relations of the Republic, and Dr. Uribe Uribe, one of the delegates of Colombia at the Third International Congress of American States.

Referring to the International Union of American Republics, the Minister says that—

The International Bureau of the American Republics, which is to-day something more than a commission charged with serving as a permanent bond between the meetings of the different American conferences, earnestly devotes its efforts to the end that each American Republic should interest itself not only in the agreement of past conferences, but also in the possible labor of future conferences.

EXPORTS OF PRECIOUS METALS.

The precious metals exported from the Department of Antioquia, Colombia, via Cartagena, in 1907, aggregated 7,301 kilograms (16,095)

pounds), of which 2,081 kilograms consisted of gold bullion and 497 kilograms of platinum, and the balance of silver and gold in other forms. The exports of precious metals through Barranquilla during the same period aggregated 6,010 kilograms (13,222 pounds). The values of these metals sent to the different countries were as follows: Germany, \$600; Belgium, \$4,790; United States, \$457,665; France, \$107,940; England, \$866,144, and Italy, \$3,429.

RAILWAYS OF THE REPUBLIC.

Señor Don José M. Ruiz, Minister of Public Works, in an interesting report to the Congress of Colombia, under date of July 20, 1908, gives the following information concerning the railways of the Republic:

Sabana Railway.—This railway is equipped with first-class rolling stock, and in sufficient quantity to meet the demands of traffic. It is under the direction of the Central Bank, which looks after the service and attends to the preservation of the road. The profits derived from this line is a source of considerable revenue to the Government.

Southern Railway.—This road is the property of the nation, but since September, 1907, in accordance with the contract made with the Government, it has been under the direction of an English company. Negotiations are now under way looking to the sale of the road.

Northern Railway.—The section of this railway from Bogota to Zipaquira is in the hands of the Colombian Northern Railway (Limited), an English company, having offices in the capital, and which has complied with the terms of the concession. The section from Zipaquira to Chiquinquira is under the direction of the Colombian Central Railway Company (Limited). Work has been temporarily suspended on this line from Nemocon toward the terminal point. The Government is at present considering a modification of the concession.

Girardot Railway.—The Government has shown particular interest in this road, not only because it is a shareholder, but principally on account of the necessity of this line to the material development of the interior of the Republic. The road is in exploitation from Girardot to El Hospicio, and the line is being extended to Facatativa. The construction company promises to complete the work to the latter place by the close of the present year.

Dorada to Honda Railway and its extension to Ambalema.—The first section of this railway was opened to traffic by the Dorada Railway Company (Limited), several years ago, since which time branch lines have been built, and the roadbed and bridges improved. The extension of the National Western Railway of Colombia by the Dorada Extension Railway Company (Limited) was completed in 1907, and opened to traffic by the President of the Republic in September of that year.

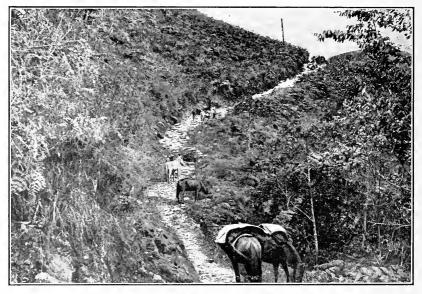
Junction of the Girardot with the Dorada Railway.—Negotiations are in progress for the construction of a railway uniting the Girardot with the Dorada Railway, so that in a short time it will be possible to travel by train from Bogotá to a point on the Magdalena River, and from thence down that stream by boat to the coast.

Cauca Railway.—Work is rapidly progressing on this line and it is hoped that it will be completed to Papagayeros in December, 1908, and to Cali on July 20, 1910.

Great Northern Central Railway.—The survey and plans of this line have been completed. Money is being raised for the construction of the line, and engineers have already been sent from London with sufficient material to begin the building of the road.

Railway from Puerto Berrio to Medellin.—This line has been constructed to kilometer 102, from which place it is being built toward the terminal point as rapidly as the available funds will allow. Up to the present time the Government has furnished \$116,000, and negotiations are under way looking to the completion of the line to Medellin as soon as possible.

Santa Marta Railway.—The exploitation of the part of the Santa Marta Railway already constructed and the extension of the line to Port Banco, the terminal point on the Magdalena River, is under the direction of the Santa Marta Railway Company (Limited), which is an English corporation. The section open to traffic is 95 miles long. The Government is negotiating with the company for the construction of branch lines to different banana plantations, and



ROAD TO SANTANDER, COLOMBIA.

Santander, the capital of the province of the same name, is situated in the table-lands of Colombia near the Venezuelan frontier. Its population numbers 9,000 inhabitants. Communication is maintained with surrounding cities and provinces by caravans of pack horses which follow the narrow trails through the extremely rugged country.

is endeavoring to obtain the lowest freight rates possible for the transportation of that fruit.

Tundama Railway.—The option on the railway contract made by the Government with Tomas G. Ribon in February, 1907, expired in August last.

Other railways.—The Cartagena, Barranquilla, and Cucuta railways, which have been in operation for several years, have continued to be exploited in accordance with the various contracts and concessions under which they were constructed. The preservation of the line of each of these railways has been properly attended to.

COFFEE CULTURE IN THE REPUBLIC.

Coffee production in Colombia averages about 600,000 bags annually, of which 67 per cent is shipped to the United States. The

principal districts where its cultivation is carried on are: The Department of Cudinamarca, which produces the renowned Bogota brand; the Department of Santander in the Ocana, Cucuta, and Bucaramanga districts, and in the Tolima and the smaller valleys of the Cordilleras.

Colombian coffees are known as "Bogota," "Bucaramanga," "Cauca," "Jerico," "Antioquia-Medillin," "Ocana," and "Santa Marta," the bulk of which are shipped under the name of "Bogata." The bean is variable in size and the roasted product not so bright as Guatemala, Mexican, or Caracas coffees, but the flavor is rich and delicious and blends well with that of other established varieties. In the region around Bucaramanga, a coffee which nearly approaches Java and other East Indian varieties is grown, and properly blended it is difficult to distinguish it from those brands.

Bogota and Bucaramanga are on the west slope of the eastern Cordilleras and Medellin on the west slope of the central Cordilleras, the sections providing the proper climatic conditions for growing fine coffees. In fact, the bean may be grown in almost all parts of the Republic where the temperature varies from about 59° to 77° F. In the hotter climate, the bean is larger but requires shading, while in colder regions a smaller bean is produced with less care.

About 25,000 bags of Colombian coffee is retained for home consumption, the remainder going to Europe and the United States and commanding a constantly growing appreciation.

MEDAL COMMEMORATIVE OF NATIONAL INDEPENDENCE.

The Congress of the Republic of Colombia has decreed the coining of a medal to commemorate the first centennial of the proclamation of the independence of the Republic, and has authorized the President to select the material of which it is to be made, prescribe its form, and the manner of distributing the same.

INTERNAL REVENUE RECEIPTS IN 1907.

The internal revenue receipts of Colombia in 1907 aggregated \$5,706,143.23, made up of excise duties on the following articles: Hides, \$1,356,447.71; cigarettes, \$480,024.40; slaughter of food animals, \$1,266.80; matches, \$216,693.07; liquors, \$1,917,903.62; tobacco, \$668,079.83; document stamps, \$361,764.74; salt, \$525,154.05, and miscellaneous, \$178,809.01.

Duties on merchandise imported for the use of industrial, railway, and navigation companies, in accordance with their respective contracts and the laws in force on the subject, were remitted in 1907 to the amount of \$227,213.38.

CONDITION OF PUBLIC BUILDINGS.

The improvement of Colombian public buildings during President Reyes's administration has been most notable. In Bogota the large building occupied by the School of Arts and Crafts has been repaired, and several halls added thereto. A hall has been constructed in the School of Medicine for the study of bacteriological subjects, and the necessary repairs made to the building. A surgical hall was likewise constructed in the San Juan de Dios Hospital. Extensive repairs and construction work have been made in the Palacio de la Carrera. Work has been begun on the repair of the Capitol, in accordance with the recommendations of a commission of engineers. The architect of this edifice has submitted plans for the completion of the building. The old Military Hospital has been repaired and turned into a hospital for the insane. Other necessary repairs to nearly all of the principal edifices of the capital have been made, and especially to the following buildings: Buen Pastor, National Academy of Music, School of Fine Arts, Palace of the Apostolic Delegation, School of Commerce, Normal School for Males, the Aserrio, the National Police Station, the Panopticon, the Engineering School, the National Lithographing Building, San Francisco, Santo Domingo, the Quinta de Segovia, the Astronomical Observatory, the Columbus Theater, etc.

Improvements and repairs have been made to the following buildings outside the capital: The reconstruction of the Buenaventura custom-house; repairs to the Tumaco custom-house; defense works on the Tumaco Island; repairs to the Cartagena custom-house; reconstruction of the customs warehouse at Cucuta; repairs to the Barranquilla custom-house; preliminary work in the construction of the Santa Marta custom-house; barracks at Cali and Barranquilla, and many other Government buildings throughout the Republic.

ATTENDANCE AT THE PUBLIC SCHOOLS IN 1907 AND 1908.

The number of pupils attending the public schools of Colombia during the scholastic year 1907 was 223,426, as compared with 236,985 for the same period in 1908. For the purpose of improving the schools of the Republic, the Government proposes, in 1909, to send a commission abroad to investigate the educational systems of foreign countries, and especially concerning the organization of primary schools, schools of commerce, and universities.

EXPORT DUTY ON CATTLE.

For the purpose of increasing the exports of cattle, and in compliance with the request of many petitions addressed to the Government of Colombia soliciting the reduction of the export duties on that important article of exportation, the duty on male animals exported was reduced, on June 22, 1907, to \$1 per head, the old duty of \$6 per head on female animals exported remaining in force.

VALUE OF SALT MINED IN 1907.

The gross value of the salt produced by the salt mines of the Government of Colombia in 1907 was \$525,620.14. Deducting from this amount \$158,506.58, the cost of production, the net output of the salt mines of the Republic during the year referred to was \$367,113.56, as compared with a net production of \$202,337.69 from the same source during the first half of 1908.

INTERNAL FLOATING DEBT, 1908.

Señor B. Sanin Cano, Finance Minister of Colombia, in his report of July 20, 1908, to the Congress of the Republic, states that the total issue of the floating internal debt of Colombia up to June 30, 1908, amounted to \$22,419,172.75, of which sum \$19,356,160.60 has been paid, leaving \$3,063,012.15 as the outstanding internal debt of the Republic on the date mentioned.

SANITATION OF CARTAGENA.

The government of the Department of Cartagena, Colombia, has appropriated \$42,700 for the sanitation of the city of Cartagena. The money became available on September 1, 1908, at which time the work of sanitation was commenced by the municipal authorities.

POSTAL AND TELEGRAPH SERVICE.

The Government of Colombia has encouraged the betterment of the postal and telegraph service of the Republic to such a degree that during the last few years the mail service has been greatly enlarged and improved, and the telegraph system largely extended throughout the entire country.

The number of pieces of foreign and domestic mail handled during 1904 was 93,558 and 326,325, respectively, or a total for the year of 419,883. During the first half of 1908 the total number of pieces of mail handled in the Republic was 389,240, consisting of 83,702 pieces of foreign mail, and 305,538 pieces of domestic mail, or an increase in 1908 of almost 100 per cent as compared with the number of pieces of mail matter handled in 1904. The conventions of the last Postal Congress held in Rome have been ratified by Colombia, and a division has been established in the Department of Posts to carry out the provisions of the same relating to the exchange of foreign mail with the Republic.

On March 31, 1907, there were 14,752 kilometers (9,161 miles) of telegraph lines in the Republic. From that time to July 20, 1908, 1,880 kilometers (1,168 miles) of telegraph wires have been strung, making the total extent of the telegraph system of Colombia on July 20, 1908, 16,632 kilometers (10,328 miles).

The paid telegrams forwarded and received over the telegraph system of the Republic of Colombia in 1907 numbered 2,068,175, and produced a gross revenue of \$489,965.81 silver. The number of franked or official messages handled during the same period was 795,937. The cablegrams sent and received in 1907 numbered 7,870, and produced gross receipts to the value of \$78,712.14 gold.

Wireless telegraphy is daily coming into more extended use in Colombia. Successful wireless experiment stations have been established on the Magdalena River at Mompos, Yati, and Buenavista. By means of the latter station direct communication now exists between Bogota and Santa Marta. On the lower Magdalena River the wireless system is taking the place of the subfluvial cables. The Hughes wireless apparatus is being introduced into the country, and a school has been established for the purpose of giving instructions in the use of this instrument. An official telegraph map of the Republic has been prepared, and will soon be ready for distribution.

GOLD AND PLATINUM DREDGING IN THE QUITO RIVER.

The "Diario Oficial" of the Republic of Colombia, in its issue of July 15, 1908, contains the full text of an important concession granted by the Colombian Government to Antonio Olano authorizing him to extract by dredging, or by any other process, gold, platinum, or other metals found in the bed of the Quito River from its confluence with the Atrato River to the place where it is now or may be made navigable for steam launches. The same privilege is granted with respect to the beds of the navigable streams of the affluents of the Quito River, as far as they are now navigable or may be made navigable for steam launches, the concession not to interfere in either instance with the rights of third parties. The concessionaire agrees to pay to the Government 5 per cent of the value of the gross output of the gold, platinum, and other precious metals found in the beds of the aforesaid rivers, this payment to be in lieu of any export taxes on the metals which are subject of this contract. The 5 per cent will be deducted by the Government from the value of the metals exported, the calculations being made on the London market prices prevailing two months before the metals are exported from Colombia.

COAL AND OIL DEPOSITS.

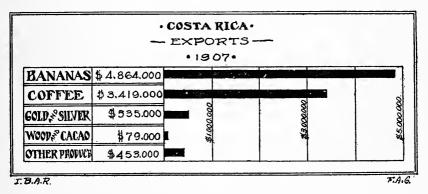
United States Consul Isaac A. Manning, of Cartagena, advises that recent reports from the Colombian regions about the Gulf of

Uraba, between the rivers Atrato and Leon, bring the news that valuable coal deposits have been discovered there; also that a spring has been encountered which flows about a pint of crude petroleum per hour. Without doubt this is an extension of the coal and oil belt, heretofore known to exist, reaching from near Cartagena to the Valley of the Sinu River.



COMMERCIAL STATISTICS FOR 1907.

According to information furnished to his Home Government by the British Consul, Mr. F. N. Cox, the total foreign trade of the Republic of Costa Rica for the year 1907 aggregated \$16,905,000, divided between imports, \$7,555,000, and exports, \$9,350,000. As compared with the preceding year, imports show an increase of 1.04 per cent and exports an increase of 3.30 per cent.



Bananas form the most valuable export item, shipment of 10,165,759 bunches, valued at \$4,864,000, being reported, an increase of over 50,000 bunches as compared with 1906. The next item in point of value was coffee, of which 281,137 bags, with a weight of 17,325 metric tons, were sent abroad between October 1, 1906, and September 30, 1907, with a total valuation of \$3,419,000. Gold and silver bullion ranks next in importance for \$535,000, followed by wood (principally cedar) and cacao to the amount of 278 metric tons, worth \$79,000. Other shipments comprise rubber, hides, tortoise shell, mother-of-pearl, and specie.

In imports, the bulk of receipts is covered by general merchandise to the value of \$5,622,000, comprising textiles and articles of domestic

use mainly. Over \$600,000 is scheduled for cattle imports, principally from Nicaragua, Honduras, and Venezuela.

The United States takes practically all of the bananas exported, figuring for 7,032,080 bunches, the remainder going to Great Britain. The latter country also received nearly three-fourths of the coffee, the remaining fourth being sent to the United States and Germany in nearly equal proportions, and France and other countries receive inconsiderable shipments.

Though it is stated that the plains of Sarapiqui and San Carlos possess excellent rubber lands, but small plantations have been laid out, producing, however, notable results.

Cacao shipments nearly doubled in quantity as compared with 1906,

and the fine prices realized have greatly stimulated its culture.

The United States still leads other nations as a supplier of imports, furnishing 44.99 per cent, while Great Britain and her colonies increased their exports to Costa Rica by 0.65 per cent. The Spanish-American Republics advanced their proportions of shipments from 1.62 per cent to 9.02 per cent, mainly attributable to cattle. Foodstuffs, railway material, and hardware form the bulk of United States exports to the Republic.

Parcels-post imports increased to \$356,000, as against \$296,000 in 1906, France furnishing over 31 per cent; Germany, 29.73; the United States, 19.71, and Great Britain, 13.87 per cent.

Public health statistics show a generally satisfactory condition for the year and the estimated population at the close of 1907 was 351,176.

A punctual weekly steamship service is maintained between Limon and Manchester and a fortnightly one between Limon and Bristol for the transport of bananas, and the Royal Mail Steam Packet Company runs a monthly cargo steamer to Limon. Other lines calling regularly at Limon are the Hamburg-American Steamship Company, weekly, with the Atlas service to New York and monthly boats for Hamburg; the Compagnie Generale Transatlantique, monthly (French), and a monthly service from both Spain and Italy. The banana steamers of the United Fruit Company sail from Limon three times a week bound for Boston, Mobile, New Orleans, and Philadelphia. At Punta Arenas the Pacific Mail Steamship Company calls three times a month on the voyage from San Francisco to Panama, and thrice monthly on the return voyages, while the Kosmos liners call once a month on their southerly voyage from San Francisco. Total tonnage of vessels entering Limon during 1907 aggregated 909,008, the number of vessels being 609, both sail and steam, while clearances are reported of 610 vessels, with a total of 915,988; tons. At Punta Arenas 102 vessels arrived, with 210,962 tons burden, 104 being reported cleared during the year.

The Northern Railway Company of Boston, managers of the Costa Rica Railway Company's lines under a working agreement, have extended various branch lines for the service of the banana industry and have carried out important improvements, notably the remodeling of the Limon freight yard and various sectional developments. The rolling stock has also been increased by seven new 76-ton engines and 200 freight cars.

The mileage of open lines on these railways, whose terminus is Limon, is as follows: Costa Rica Railway, main line, 137.47 miles; branches and sidings, 63.36 miles; Northern Railway, main line, 43.48 miles; branches and sidings, 87.34 miles.

On the Pacific Railway construction work has been carried to Las Huacas, a point 11 miles beyond Santo Domingo de San Mateo in the direction of Punta Arenas, and an authoritative survey has been completed of the country which has to be crossed in order to connect the Pacific Railway, running from San José to Las Huacas, with the Punta Arenas-Esparta line. The distance between the two railways, measured along the route adopted, is about 11 miles, and the estimated cost for completing the construction is about \$600,000.

The Abangares Mining Company, the Esperanza, and the Colbourn mine have been in operation throughout the year, and development work is proceeding at the Montezuma mine in the Barranca district, and at Machuca and Aguacate mines in the Aguacate district.

The service of the external debt remained stationary during the year and the internal debt increased by \$574,000, amounting on March 31, 1908, to \$4,666,000. Revenue for the year ended March 31, 1908, was given as 7,916,474 colones (\$3,787,000) and expenditures as 9,191,449 colones (\$4,398,000), the deficit being occasioned by such extraordinary expenses as were caused by railway construction, construction of public buildings, and the establishment of the liquor monopoly by the Government.

BUDGET FOR 1908-9.

The Congress of the Republic of Costa Rica has fixed the expenses of the Government for the fiscal year 1908–9 at 7,359,003.93 colones (\$3,458,730). To cover these expenses, the revenues from all sources are estimated at 7,535,000 (\$3,541,450). The items, in colones, are as follows: From customs duties, 4,650,000; from consular fees, 125,000; from liquors, 1,850,000; from sealed paper, 50,000; from stamps, 35,000; from Government lands, 15,000; from the Pacific Railway, 300,000; from posts and telegraphs, 300,000; from Government Printing Office, 25,000; from public registrations, 35,000, and from sundry other sources, 150,000.

SURCHARGE ON IMPORT DUTIES.

The British Consul in Costa Rica has reported to his Home Government that the fees charged abroad for Costa Rican consular invoices have been suppressed, but a surcharge is made of 2 per cent on the amount of import duty levied on merchandise, and is collected by the custom-houses of the Republic.

REGULATION OF CATTLE AND FEED DUTIES.

The Government of Costa Rica has decreed that on and after September 15, 1908, all cattle imported into the Republic, with the exception of sleek or fat cattle, shall be free of duty. Sleek or fat cattle shall pay a duty of 18 *colones* (\$8.37) per head.

In future the State will pay no bounty on cows or heifers brought into the Republic, but until December, 1911, the Government of Costa Rica will pay the maritime freight to Costa Rica, and land freight in the Republic, on blooded cattle, male or female, brought from Europe or the United States.

Work oxen imported, even though they are fat or sleek, are not subject to import duties, but work oxen exported are subject to a duty of 10 colones (\$4.65) per head.

Blooded cattle exported are subject to a duty of 25 colones (\$11.62) per head, but if the blooded animal was brought into the country and the freight on the same was paid by the Government, the exporter shall return the amount of said freight to the Government.

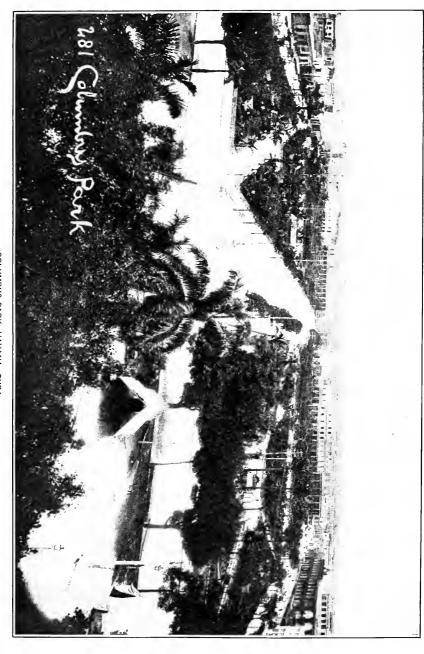
The free admission of foreign grains, in accordance with decree of November 26, 1902, and the by-products of grains referred to in article 3 of the law of August 20, 1903, is made applicable to hay in bales.

The law of August 1, 1900, articles 1, 2, and 4 of the law of August 20, 1903, the law of July 28, 1904, and the rules and regulations of September 10 of the same year, have been repealed.



FOREIGN COMMERCE, 1907-8.

Figures compiled by the Statistical Bureau of the Cuban Government report total imports by the Republic during the fiscal year 1907–8 at \$96,993,134 and exports at \$97,449,917, a total trade value of \$194,443,021 being thus indicated. For the preceding fiscal year 1906–7, imports and exports figured for \$96,668,889 and \$110,764,937, respectively.



COLUMBUS PARK, HAVANA, CUBA.

The site of this park was originally a mosquito and fever breeding marsh which was drained by the enterprise of Bishop Espada, a public-spirited ecclesiastic. It was later laid out into a drill ground for the Spanish soldiery by Governor-General Tacon, and finally transformed into Columbus Park, now an attractive pleasure ground.

The values furnished and received by the various countries engaged in commerce with Cuba for the two periods under comparison were as follows:

	Imp	orts.	Exports.	
Countries.	1907–8.	1906–7.	1907-8.	1906–7.
United States Other North and South America Germany Spain France. United Kingdom Other Europe Other countries.	\$46, 450, 908 8, 346, 912 7, 762, 751 8, 816, 910 5, 854, 474 14, 550, 912 3, 578, 580 1, 163, 778	\$48, 192, 672 9, 500, 962 6, 433, 969 8, 286, 973 5, 781, 600 13, 639, 130 3, 434, 585 1, 398, 996	\$81, 338, 327 2, 726, 006 3, 734, 394 1, 006, 029 1, 938, 427 5, 143, 571 868, 179 692, 984	\$98, 141, 012 2, 211, 504 3, 130, 757 413, 306 1, 002, 329 4, 446, 225 821, 675 598, 138

		CU						
	•	-FOREIGN		CE -				
		پر سے پار	07-8					
United States	\$61,358.367 46.450.908							
UNITED KINGDOM	\$ 5.143.571 14.550.912							
GERMANY	\$ 3.734.394 7.762,751							
OTHER N. 45. AMERICA	\$ 2.726.006 8.346.912							
FRANCE	\$1.938.427 5.854.474							
SPAIN	8.816.910		00 5		9	9	9	0
COUNTRIES	692.984 1.163.778	17 g	000.000	000:000	00.00	000.000.00	200.000	80.000.000
OTHER EUROPE	868,179 3.578,580		300	400	50.6	60.6	20.	80.6
	EXP	orts				/// IM	POR	TS.

Specie imports for 1907–8 are reported as \$1,835,787 against \$665,306 in 1906–7, while exports of specie during the same periods are given as \$14,675,020 and \$4,047,909, respectively.

CONTRACT FOR THE CIENFUEGOS WATERWORKS.

The amended contract entered into between the Cuban Government and the Reilly Company on August 10, 1908, for the building of the Cienfuegos waterworks, fixes the date of completion of the system at two years from the date of the contract.

Government supervision of the work is provided for and the Department of Public Works is authorized to make the necessary leases, purchases, and condemnations of private property for the construction, maintenance, and operation of the same.

Authority is given for the use of public highways for the necessities of the undertaking and for the utilization of the Hanabanilla

River. The Secretary of Public Works is authorized to include in the contract water and sewer connections with private houses at the expense of the property owners.

Bonds of the city of Cienfuegos are to be accepted by the Government for the reimbursement of three-fourths of the cost of the works, the remainder of the expenditures being provided for by certain specified collections of rentals and charges.

CUSTOMS MODIFICATIONS.

Decree No. 563, dated May 27, 1908, of the Provisional Governor of Cuba, amending the customs tariff provides that article 286 of the customs tariff in force be amended as follows:

Coffee, chicory roots, and chicory-

- (a) Raw (not roasted), T. (Disp. III, rule 5)_____100 kilos__ \$18.00
- (b) Roasted, in the bean or ground, T. (Disp. III, rule 5)____do___ 22.50

Circular No. 49, of June 3, 1908, assessing with duty zinc plates for protecting steamship boilers, states that zinc plates with a hole in the center only to be used for protecting steamship boilers, shall not be regarded as accessory parts of boilers and shall be classed in tariff No. 226 and not in No. 74f.



DRAFT OF NEW CONSTITUTION.

The "Gaceta Oficial" of the Dominican Republic, in its issues of August 15 and 19, 1908, contains the full text of the proposed new Constitution which was submitted to the consideration of the Congress on December 18, 1907. The Constitution now in force, after having been revised by the Legislature of the Dominican Republic in 1896, was promulgated by the President on June 20 of the same year.



MESSAGE OF THE PRESIDENT.

On August 12, 1908, President Eloy Alfaro, delivered an important message to the National Congress of Ecuador at its regular session in Quito, stating that the Government had taken special pains to cultivate, strengthen, and extend the cordial relations of the Republic now obtaining with other powers, and calling attention to the fact that the strongest ties of friendship and good will continue to exist between Ecuador and the countries of Europe and America. referred to the satisfactory services rendered abroad by the able diplomatic corps of the Republic, and stated that he had cooperated in every way possible to the end that the arbitral award of the boundary question with Peru be pronounced by the King of Spain at the earliest date practicable. The President expressed the belief that the boundary dispute with Colombia would be settled by the amicable and direct negotiations of the two Republics, and informed the Congress that a treaty relating to that subject would be submitted for consideration by the Minister of Foreign Relations. Alfaro expressed his sympathy with the plan of confederation with Colombia, so strongly and ably advocated by President Reyes in a recent message to the Congress of Colombia.

The revenues of the Republic for the fiscal year 1907 were 12,724,567.09 sucres (\$6,362,283.55), while the expenditures aggregated, during the same period, 15,401,785.65 sucres (\$7,700,892.82), making a deficit for the year of 2,677,218.56 sucres (\$1,338,609.28). The operating expenses of the Government were, however, in 1907, only 13,268,438.35 sucres (\$6,634,219.17), the difference of 2,133,347.10 sucres (\$1,066,673.55) having been used principally for disbursements on account of the Southern Railway.

The receipts from maritime and land custom-houses for the fiscal year 1907 were 9,802,881.91 sucres (\$4,901,440.95), as compared with 8,132,560.56 sucres (\$4,066,280.28) in 1905, or an increase in the receipts of the former year over those of the latter of 1,670,321.35 sucres (\$835,160.67), due largely to the increased facilities of the railways for the handling of traffic.

The revenues from salt in 1907 amounted to 490,413.19 sucres (\$245,206.59), as compared with receipts from the same source in 1905 of 372,359.51 sucres (\$186,179.75), or an increase in 1907 of 118,053.68 sucres (\$59,026.84).

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The tax on alcohol in 1907 produced 506,252.20 sucres (\$253,126.10), as compared with 254,161.14 sucres (\$127,080.57) in 1905, or an excess in the receipts of the former over those of the latter year of 252,091.06 sucres (\$126,045.53).

In order to meet the deficit for the fiscal year 1907, a loan of 2,892,810.69 sucres (\$1,446,405.35) was negotiated.

Concerning the railway from Guayaquil to Quito, the President says:

The Trans-Andine Railway—the surest foundation for the progress of the nation—has at last arrived at Quito. The earnest wishes of a patriotic people and my most fervent desires have been realized, but this gigantic undertaking has cost us innumerable sacrifices, inasmuch as the Government has had to overcome many difficulties in order to prevent our hopes from being shattered and the prosperity of the Republic long retarded. I will give you, in a special message, an account in detail of this truly regenerating work—a work we can not now appreciate in all its magnitude. All that was possible and necessary to do to crown with success such a great undertaking has been done, and the efforts and sacrifices of the administration have received the approval of the whole nation.

On August 6, 1908, preliminary work was begun on the railway from Huigra to Cuenca, and the contractor promises to have trains running into the rich mining and agricultural districts of southern Ecuador within the next twenty-eight months. Construction on the railway from Bahia to Quito will soon be commenced. The President advocates the extension of the Guayaquil and Quito Railway to Ibarra and Tulcan, thus placing the principal port of the Republic in rapid communication with the rich and fertile Provinces of Imbabura and Carchi. The building of the proposed railway to Curaray is likewise recommended.

There has been a notable improvement in the public school system of the nation, and the modern methods adopted have produced satisfactory results. The establishment of scientific and industrial schools, and especially of an agricultural college, is earnestly recommended.

In regard to colonization and immigration, the Executive favors liberal laws, such as will encourage the coming of immigrants, because it is through proper immigration that new nations develop and reach the pinnacle of their wealth and greatness.

The Government will celebrate the hundredth anniversary of its independence by holding a National Exposition in Quito in honor of the political heroes of the emancipation period of the country's history, in which a number of nations have already decided to participate.

The Executive calls attention to the needs of the charitable institutions of the country, and earnestly recommends them to the favorable consideration of the Congress. As a means of obtaining funds

the President suggests that lands held in mortmain be leased or administered by the State, and that the proceeds thereof be applied to the maintenance of eleemosynary institutions.

INDUSTRIES OF THE DEPARTMENT OF GUAYAS.

An interesting report of the Governor of the Department of Guayas to the Minister of the Interior of the Republic of Ecuador says that the domestic industries of that Department, the capital of which is Guayaquil, continue to increase and develop in a satisfactory manner, but recommends, in order to stimulate and augment the home industries of the Department and of the Republic to a still greater degree, that the Federal Government cooperate in a practical and ef-



PINEAPPLE PLANTATION IN ECUADOR.

Ecuadorian fruit is extensively exported to the dry coast zones of Peru and northern Chile.

fective manner by sufficiently protecting the domestic manufacturers of the country against the competition of foreign manufacturers engaged in producing the same class of articles. According to the report referred to, the principal industries of Guayaquil that have been established for a long time cover such important articles of consumption as vermicelli, chocolate, biscuits, beer, ice, soap, candles, liquor, etc., while the newer industries consist in the manufacture of bags, wafers, cotton fabrics, mosaics, and a well-equipped tannery. The manufacture of matches has been particularly successful in the Republic, and the quality and price of this product compare most

favorably with matches of foreign manufacture. The report especially recommends all domestic industries that have to import raw materials for the manufacture of the finished product to the consideration and protection of the Federal Government, and suggests the reduction of duties on raw products and an increase of duties on foreign articles coming in competition with merchandise manufactured therefrom.



PUBLIC INSTRUCTION IN THE REPUBLIC.

The value attached by the Guatemalan Government to public instruction has been amply supported by the present President, Manuel Estrada Cabrera. The higher educational institutions are established at Guatemala City and Quezaltenango and include schools of law, medicine, surgery, dentistry, pharmacy, and commerce. These schools, particularly that of medicine, under the auspices of which the Pan-American Medical Congress was recently held, enjoy a high reputation in all Latin America and attract many students from neighboring republics. There are also night schools for artisans and workmen, the pupils of which are exempt from military service.

The secondary course of instruction, established at Guatemala City, Quezaltenango, and Chiquimula, is under the direction of Belgian professors, as is one of the normal schools. The United States has also contributed an efficient corps of men and women teachers, and no expenditure has been spared to make the course of study practical and thorough. The Minister of Instruction has a special portfolio in the President's Cabinet, and many Guatemalan youths are educated abroad at Government expense.

The country maintains a national conservatory of music and a school of fine arts, in both of which the instructors are largely European and American artists, while the Government especially encourages the manual and mechanical arts. One of the features of the entertainments of the Pan-American Medical Congress was a fine production of the opera "Aida" on a high plane of artistic merit.

The school year ends with October with appropriate festivities held in the beautiful "Temple of Minerva," constructed for the celebration of scientific and scholastic ceremonials.

HAITI



RAILWAY STATION, PORT AU PRINCE, HAITI.

Port au Prince is connected by rail with l'Etang-Saumatre and Lake Assuéi. A railway is also under construction between the city and Gonaives. Other lines building will join the capital with Cape Haitien and Perrin.

COMMERCIAL CONVENTION WITH GERMANY.

The Haitian and German Governments, desirous of increasing the trade relations between the two countries, have concluded a commercial convention which was signed July 29, 1908, and promulgated August 25, 1908.

According to this convention the following Haitian products will, upon their importation into Germany, pay the minimum customs duties: Cabinet and dye woods, cacao, coffee, wax, and honey, while the following German products imported into Haiti will enjoy a reduction of 25 per cent on all the principal duties and on those collected for docking, weighing, visé, as well as on the surtax of 50 and 33\frac{1}{3} per cent inscribed in the Haitian minimum tariff: Stockings and socks of all kinds and grades, matches, tin and enameled ware, cement, rope, faience, and twine.



FOREIGN COMMERCE, 1907-8.

Figures issued by the Statistical Division of the Treasury Department of the Mexican Government place the total value of the trade of the Republic for the fiscal year 1907–8 at \$464,374,899.75 Mexican currency (\$232,187,400 gold), against \$480,247,588.68 silver (\$240,123,700 gold) in the preceding year.

Imports figure for \$221,535,993 silver (\$110,767,900), as compared with \$248,018.010 silver (\$124.009,000) in 1906–7, the export valuations for the two periods being \$242,783,906.52 silver (\$121,369,400) and \$232,229,578.68 silver (\$116,114,700), respectively.

A decline is thus indicated in the later period in both branches of national trade, the loss on the import list being \$10,693,585.36 and on the export of \$5,279,103.48 silver valuation.

On the import list, the only item for which a notable increase is cited is classified under textiles and manufactures thereof, in which a gain of \$4,814,786.60 silver (\$2,400,000) is reported in 1907–8. While minerals and metals as a whole decreased in import value by \$12,984,473.60 silver (\$6,492,000) it is noteworthy that materials of iron and steel for building and industrial purposes showed an advance of \$3,366,307.31 silver (\$1,683,000).

On the export list, while gold shipments increased by \$8,047.305.33 silver (\$4,023,600) and while those of silver declined by \$6,827.039.46 silver (\$3,413,500), precious metals as a whole advanced \$1,220,265 silver (\$610,000). Vegetable products as a whole declined by \$1,624,391.52 silver (\$812,000) but coffee advanced by \$3,354,956 silver (\$1,677,400) rubber by \$2,212,755.30 silver (\$1,106,300), and guayule by \$1,171,409 silver (\$585,700).

The balance of trade in favor of the Republic, as indicated by the excess of exports over imports, is \$21,202,913.20 silver (\$10,601,400), which is a favorable showing as compared with the preceding fiscal year, when the trade balance figured for \$15,788,432 silver (\$7,884,200).

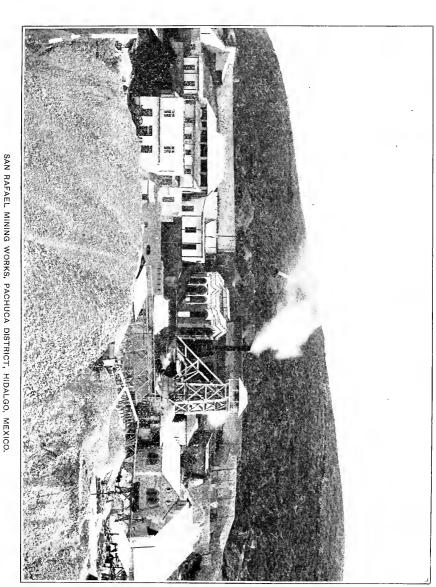
The business crisis which occurred during the year naturally affected the demand for raw materials abroad, and as this class forms the bulk of Mexican exports the explanation of the decline in the shipment of national products is furnished. At the same time, fewer sales necessitate fewer purchases on the part of the producer, so that

in the economic consideration of the matter the year's report is, in the main, favorable to Mexico's commercial status.

A lowering of the price of some of the commodities exported accounts in some degree for the decline in export values, thus henequen was really shipped in larger quantity during the year 1907–8 than in 1906–7, but a decline in price caused a corresponding decline in valuation to the amount of \$4,420,905 silver (\$2,210,400). In addition to the coffee and rubber increase noted above, tobacco shipments show an increased valuation of \$742,911 silver (\$371,400), while other native products, such as cotton, wheat, rice, corn, and beans, were subject to greater domestic demand, thus necessitating a cutting off of exports.

IMPORTS.
[Silver valuation.]

Articles.	1907-8.	1906-7.
Animal substances: Live animals.	Pesos. 2, 364, 613. 38	Pesos. 3,883,771.95
By-products of animals— Food	369, 319. 04 1, 246, 614. 26 16, 315. 42	383, 442. 62 1, 414, 407. 21 1, 704. 42
	1,632,248.72	1,799,554.25
Animal products— Food Industrial Medicinal	6,008,378.16 1,115,545.54 36,656.94	6, 376, 011. 76 982, 407. 34 32, 941. 36
	7, 1 62, 580. 64	7, 391, 360. 46
Manufactured articles— Hides Boots and shoes Miscellaneous	1, 910, 995. 85 3, 425, 913. 07 769, 440. 36	1, 999, 057. 32 3, 432, 957. 44 760, 684. 18
	6, 106, 349.28	6, 192, 698. 94
Total animal products	17, 263, 792. 02	19, 267, 385. 60
Vegetable products: Textile fibers	2,030,786.22	1, 456, 069. 79
Fruits and grains— Food Medicinal Industrial Live plants and seeds.	5, 994, 335, 66 12, 655, 51 79, 228, 32 214, 087, 49	9, 581, 536. 76 13, 756. 46 63, 426. 32 174, 260. 45
	6, 300, 306. 98	9,832,979.99
Sundry vegetable substances	1,646,521.48	2,005.450.04
Miscellaneous vegetable products— Food Medicinal Industrial	2, 211, 736, 89 287, 880, 78 3, 666, 609, 08	1, 903, 975. 28 223, 877. 05 2, 845, 824. 09
	6, 166, 226. 75	4, 973, 176. 42
Woods	7,260,518.30	6, 912, 747. 91
Manufactures of vegetable substances— Of lumber Of lumber with other substances Furniture Of sundry vegetable substances.	564, 649, 03 2, 120, 378, 13 2, 202, 226, 83 2, 339, 849, 33	523, 491. 76 1, 916, 933. 48 2, 016, 742. 51 2, 108, 269. 70
	7, 227, 103. 32	6, 565, 437. 45
Total vegetable substances	30, 631, 463. 05	31, 745, 861. 60



The district of Pachuca is probably the richest mining section of the Republic. It was the first section worked by the Spaniards after their arrival in the country. In addition to silver, gold and lead and a quality of iron, which is unsurpassed in the world, are found here. San Rafael, though a comparatively new silver mine, is very prosperous.

IMPORTS—Continued.

Articles.	1907-8.	1906-7.
Mineral substances; Gold, silver, and platinum— Minerals and metals Manufactures	Pesos. 38, 150. 49 6, 956, 648. 47	Pesos. 1,022,158.56 24,746,712.06
	6, 994, 798. 96	25, 768, 870. 62
Copper and its alloys— Minerals and metals Manufactures	3, 115, 627. 34 4, 622, 795. 79	2, 968, 809, 94 4, 367, 886, 36
	7, 738, 423. 13	7, 336, 696. 30
Tin, lead, and zinc— Minerals and metals Manufactures	424, 805, 66 945, 232, 11	445, 906, 31 845, 443, 43
	1, 370, 037. 77	1, 291, 349. 74
Iron and steel Minerals Construction and industrial material Manufactures	2. 00 23, 409, 922. 51 7, 248, 457. 73	8, 339, 75 20, 043, 615, 20 7, 069, 098, 42
	30, 658, 382. 24	27, 121, 053. 37
Other metals	330, 517. 14	237, 161. 14
Stones and earths— Stones and earths Products Manufactures Flint glass, glass, chinaware, and porcelain	10, 103, 682, 45 6, 868, 584, 50 937, 430, 50 4, 515, 850, 16	9, 013, 807. 67 6, 142, 282. 61 1, 086, 407. 06 4, 504, 551. 94
	22, 425, 547. 61	20, 747, 049. 28
Total mineral substances	69, 517, 706. 85	82, 502, 180. 45
Fabrics and their manufactures: Cotton— Yarns Fabrics Manufactured articles	2, 714, 778. 85 10, 760, 394. 67 4, 153, 019. 72 17, 628, 193. 24	2, 254, 875, 16 8, 836, 748, 20 3, 333, 560, 20 14, 425, 183, 56
Flax, hemp, and similar fibers Yarns Fabrics Manufactured articles	413, 127, 90 763, 943, 82 254, 945, 66 1, 432, 017, 38	401, 724, 19 807, 825, 39 247, 436, 13 1, 456, 985, 71
Wool—	1,102,011100	
Yarns Fabries Manufactured articles	95, 681. 27 3, 995, 645. 48 1, 961, 419. 85	91, 655. 97 3, 259, 452. 78 1, 857, 762. 2 6
	6, 052, 746. 60	5, 208, 871. 01
Silk— Yarns. Fabrics Manufactured articles.	101, 221, 75 1, 512, 003, 06 1, 739, 779, 48	102, 463, 00 1, 198, 007, 07 1, 380, 981, 13
	3, 353, 004, 29	2, 681, 451. 20
Silk mixed with other substances— Yarns . Fabrics Manufactured articles	939. 57 1, 188, 403. 21 815, 092. 81	964. 00 1, 041, 533. 69 881, 437. 81
	2,004,435.59	1, 923, 935. 50
Artisela or artificial silk— Yarns Fabrics Manufactured articles	535, 30 35, 161, 22 69, 721, 68	174.03 15, 117.38 49, 310.31
	105, 418. 20	64, 601. 72

MEXICO.

IMPORTS-Continued.

Articles.	1907–8.	1906–7.
Chemical and pharmaceutical products	Pesos. 10, 350, 906. 51	Pesos. 9, 413, 002. 93
Spirituous, fermented, and natural beverages	7, 163, 930. 44	7, 296, 236. 31
Paper and paper products: Waste and pulp for paper manufacture. Paper and cardboard Manufactured paper Articles made of paper.	982, 125, 75 1, 211, 040, 73 1, 642, 736, 85 2, 310, 962, 69	1, 086, 230, 31 1, 218, 274, 78 1, 551, 895, 82 2, 156, 066, 48
Total paper and paper products	6, 146, 866.02	6, 012, 467.39
Machinery and apparatus Vehicles Arms and explosives Miscellaneous	28, 673, 000. 66 7, 387, 088. 67 3, 650, 313. 77 10, 175, 110. 03	27, 797, 865, 86 9, 003, 324, 24 3, 907, 892, 89 9, 522, 332, 71
Total imports	221, 535, 993, 32	232, 229, 578. 68

Countries of origin for imports were as follows:

Countries.	1907-8.	1906–7.
EUROPE. Germany Austria-Hungary Belgium Spain France. Great Britain Holland Italy Norway Portugal Russia Sweden Swizerland Other countries	Pesos. 28, 397, 661, 78 1, 626, 651, 19 3, 227, 551, 31 7, 609, 924, 55 19, 986, 727, 16 32, 870, 327, 42 579, 182, 67 1, 922, 268, 38 352, 726, 70 142, 810, 42 907, 707, 69 581, 161, 04 1, 410, 391, 83 94, 205, 72	Pesos. 24, 036, 957, 13 1, 315, 687, 88 3, 127, 630, 92 7, 937, 986, 31 17, 317, 663, 73 23, 451, 272, 89 563, 779, 93 1, 876, 459, 19 355, 580, 22 306, 565, 08 228, 224, 74 571, 562, 37 985, 873, 24 119, 226, 08
	99, 719, 297. 86	82, 194, 468. 81
ASIA. China Hindostan Japan Other countries	234, 470. 71 1, 024, 019. 57 958, 935. 42 58, 584. 74 2, 276, 010. 44	288, I33. 66 1, 157, 536. 90 723, 802. 73 74, 569. 57 2, 244, 047. 86
AFRICA.		
Egypt Other countries	212, 851. 01 12, 755. 26	209, 650. 07 26, 547. 83
	225, 606, 27	236, 197, 90
NORTH AMERICA.	817, 556. 43	447, 676. 64
United States	117, 235, 184. 64	146, 392, 884. 26
	118, 052, 741. 07	146, 840, 560. 90
CENTRAL AMERICA. Guatemala Honduras Other countries	9, 346. 98 17, 948. 19 88, 178. 18	8, 595. 88 14, 087. 56 16, 670. 35
	115, 473. 35	39, 353. 79
SOUTH AMERICA. Brazil	11, 970. 03 33, 629. 64 85, 139. 50 145, 451. 62 12. 97	9, 013. 38 16, 405. 00 160, 531. 79 95, 976. 38 700. 00

Countries.	1907-8.	1906-7.
SOUTH AMERICA—continued. Peru	Pesos. 16, 326, 26 349, 627, 00 17, 815, 60 4, 740, 90	Pesos. 18, 168, 13 49, 376, 68 26, 811, 36 6, 553, 98
	665, 213, 52	383, 536. 70
WEST INDIES.		•
Cuba. Other countries	136, 946. 77 5, 971. 76	177, 562. 45 9, 902. 91
	142, 918, 53	187, 465, 36
OCEANIA.		
Australia. Other countries.	300, 378. 28 38, 354. 00	65, 081, 36 38, 866, 00
	338, 732. 28	103, 947. 36
Europe Asia Africa North America Central America South America West Indies Oceania	99, 719, 297, 86 2, 276, 010, 44 225, 606, 27 118, 052, 741, 07 115, 473, 35 665, 213, 52 142, 918, 53 338, 732, 28 221, 535, 993, 32	82, 194, 468, 81 2, 244, 047, 86 236, 197, 90 146, 840, 560, 90 39, 353, 79 383, 536, 70 187, 465, 36 103, 947, 36

Articles.	1907–8.	1906-7.
Mineral products: Gold coin, Mexican. Gold coin, foreign Gold in bars. Gold in other forms	Pesos. 5, 046, 593, 54 23, 097, 909, 34 3, 776, 516, 39	Pesos. 29, 990. 00 10, 070. 00 18, 905, 646. 10 4, 928, 007. 84
Total gold	31, 921, 019. 27	23, 873, 713. 94
Silver coin, Mexican Silver coin, foreign Silver in bars Silver in other forms.	10, 671, 274, 00 165, 037, 00 69, 173, 111, 04 13, 025, 328, 56	24, 521, 921, 00 161, 829, 00 63, 191, 248, 18 11, 986, 791, 88
Total silver	93, 034, 750. 60	99, 861, 790. 06
Total silver and gold Antimony Copper Marble, unwrought Plumbago Lead Zine Other minerals	124,955,769.87 1,691,187.00 24,834,068.11 36,063.00 64,376.00 5,344,561.86 888,484.00 616,115.53	123, 735, 504, 00 1, 427, 421, 00 28, 792, 778, 98 81, 724, 00 134, 365, 00 3, 644, 738, 56 2, 010, 408, 12 419, 064, 44
Total minerals	158, 430, 625. 37	160, 246, 004. 10
Vegetable products: Cotton, raw (en borra) Cotton, raw (en rama) Cotton, uncleaned Coffee Cascalote and tanning barks Rubber Chicle Oil of aloes Beans Fresh fmits Peas Guayule Horse beans Henequin Ixtle Woods	44, 342, 00 1, 275, 186, 80 15, 746, 75 10, 592, 486, 00 13, 001, 00 8, 891, 681, 30 2, 251, 624, 71 116, 772, 00 588, 183, 00 355, 899, 08 3, 418, 258, 70 1, 232, 634, 00 27, 019, 340, 00 2, 900, 727, 78 2, 189, 718, 14	595, 154, 00 3, 658, 325, 00 169, 645, 00 7, 237, 529, 34 8, 269, 00 6, 678, 926, 00 2, 144, 724, 00 97, 755, 00 862, 695, 00 329, 990, 43 4, 084, 521, 00 61, 225, 00 2, 550, 00 31, 440, 245, 77 3, 818, 176, 00 2, 169, 778, 50

EXPORTS--Continued.

Articles.	1907-8.	1906–7.
Vegetable products—Continued.	Pesos.	Pesos.
Corn	6, 316, 74	8, 870, 80
Mulberry logs	83, 201. 00	94, 725, 00
Dyewoods.	633, 196, 16	739, 810, 12
Fodder	99, 804, 70	235, 937.00
Broom root	2, 347, 699, 00	1,831,217.00
Leaf tobacco.	2, 637, 742. 33	1, 894, 830, 35
Vanilla	1,911,061.00	2, 662, 266, 00
Sarsaparilla	72, 168, 00	124, 512, 00
Other vegetable products	1, 457, 227. 80	863, 677. 20
Total vegetable products	70, 185, 982, 99	71, 810, 374. 51
Animal products:		
Hogs.	101, 645, 40	96, 913. 00
Horns	49, 150, 00	59, 558. 00
Cattle	2, 227, 118. 00	1,560,362.00
Bones	43, 053, 00	41,724.00
Honey	159, 393, 65	113, 421, 68
Dried flies.	16, 106, 00	40,071.00
Hides, undressed	6, 788, 424, 89	8, 875, 091, 03
Other animal products.	274, 897. 78	364, 787. 31
Total animal products	9, 659, 788. 72	11, 151, 928. 02
Manufactured products:		
Sugar	689, 605, 00	1, 164, 339, 00
Henequen rope	250,00	1, 122, 00
Henequen rope Flour, cotton-seed cakes, and harinoline	839, 627, 00	846, 280, 00
Skins, dressed	82, 543, 41	34, 883, 00
Sugar loafs.	23, 181, 50	26, 612, 00
Bran	47,071.08	61, 360.00
Straw hats	439, 457, 22	631, 218, 80
Tobacco, manufactured	501, 634, 47	493, 228, 60
Other manufactured products	390, 659. 10	507, 450. 32
Total manufactures.	3,014,028.78	3, 766, 493. 72
Miscellaneous	1, 448, 480. 66	1, 043, 209. 65
Total exports:		
Precious metals.	124, 955, 769, 87	123, 735, 504. 00
Other articles	117, 783, 136. 65	124, 282, 506. 00
Total	242, 738, 906. 52	248, 018, 010, 00

The destinations of exports were as follows:

Belgium 6,029,537,36 5,308,503 Spain 2,331,048,23 2,988,411 France 12,393,816,10 8,054,972 Great Britain 26,256,848,49 31,874,023 Holland 44,510,00 51,850 Italy 48,956,00 37,966 Norway 19,565,00 51,007 Russia 19,565,00 51,007 Sweden 110,00 2,222 China 1,090,00 796 NORTH AMERICA 1,990,00 796			
Germany 22,359,371.83 20,109,64.00 Austria-Hungary 19,064.00 3,555 Belgium 6,029,337,36 5,808,503 Spain 2,331,048.23 2,988,411 France 12,393,816.10 8,044,972 Great Britain 26,256,848.49 31,574,023 Holland 44,510.00 51,850 Italy 48,956.00 37,966 Norway 1,000.00 20 Portugal 544.00 Russia 19,565.00 51,067 Sweden 100.00 2,222 69,504,371.01 68,482,705 China 1,090.00 796 NORTH AMERICA 1,090.00 796	Countries.	1907-8.	1906–7.
Austria-Hungary 19, 064, 00 3, 555 Belgium 6, 029, 537, 36 5, 308, 508 Spain 2, 331, 048, 23 2, 988, 411 France 12, 393, 816, 10 8, 054, 972 Great Britain 26, 256, 848, 49 31, 574, 023 Holland 44, 510, 00 51, 850 1taly 44, 510, 00 37, 966 Norway 1,000, 00 20 Portugal 544, 00 514, 00 Eussia 19, 565, 00 51, 067 Sweden 19, 565, 00 51, 067 Sweden 19, 565, 00 51, 067 Grussia 110, 00 2, 222 69, 504, 371, 01 68, 482, 705 China 1,090, 00 796			
Belgium 6,029,537,36 5,308,508 Spain 2,331,048,23 2,988,411 France 12,393,816,10 8,054,972 Great Britain 26,256,848,49 31,874,023 Holland 44,510,00 51,850 Italy 48,956,00 37,966 Norway 1,000,00 20 Portugal 541,00 51,067 Russia 19,565,00 51,067 Sweden 450 Other countries 110,00 2,222 China 1,090,00 796 NORTH AMERICA 1,990,00 796 Canada 184,603,84 456,679	Austria-Hungary		3, 555, 00
Spain 2,331,048.23 2,988,411 France 12,393,816,10 8,054,972 Great Britain 26,256,848,49 31,874,023 Holland 44,510.00 51,850 Holland 44,510.00 51,850 Holland 45,956.00 37,966 Norway 1,000.00 20 Portugal 544,00 Russia 19,565.00 51,067 Sweden 450 Cher countries 110.00 2,222 69,504,371.01 68,482,705 China 1,090.00 796 North America 1,090.00 796 North America 1,090.00 796 Canada 184,603.84 456,679 Canada 184,603.84 456,679 Canada 184,603.84 456,679 Canada 184,603.84 456,679 Canada Cana	Belgium		5, 308, 503, 52
Great Britain 26, 256, 848, 49 31, 574, 023 Holland 44, 510, 00 51, 850 Italy 48, 956, 00 37, 966 Norway 1,000, 00 20 Portugal 544, 00 51, 007 Russia 19, 565, 00 51, 007 Sweden 450 450 Other countrics 110,00 2, 222 China 1,090,00 796 NORTH AMERICA. Canada 184, 603, 84 456, 679	Spain		2,988,411.00
Holland	France.		8,054,972.79
Italy	Great Britain		
Norway			51, 850. 00
Portugal	Norway		20.00
Russia 19,565.00 51,067 Sweden 450 Other countries 110.00 2,222 69,504,371.01 68,482,705 China 1,090.00 796 NORTH AMERICA. Canada 184,603.84 456,679	Portugal		20.00
Sweden 450 Other countries 110.00 2,222 69,504,371.01 68,482,705 China 1,090.00 796 NORTH AMERICA. 184,603.84 456,679	Russia		51,067.00
China 69,504,371.01 68,482,705 China 1,090.00 796 NORTH AMERICA. Canada 184,603.84 456,679	Sweden		450.00
China 1,090.00 796 NORTH AMERICA. Canada 184,603.84 456,679	Other countries	110.00	2, 222. 00
NORTH AMERICA. Canada		69, 504, 371. 01	68, 482, 705, 06
Canada	China	1,090,00	796, 00
Canada	NORTH AMERICA.		
		104 600 04	450 050 00
			175, 809, 123, 63
170, 309, 941, 19 176, 265, 802		170, 309, 941, 19	176, 265, 802, 63

Conntries.	1907–8.	1906–7,
CENTRAL AMERICA. Guatemala. Honduras. Other countries.	Pesos. 459, 765. 90 323, 244. 53 31, 733. 92	Pesos. 482, 470, 91 299, 133, 40 8, 728, 00
SOUTH AMERICA.	814, 744. 35 27, 108. 39	790, 332. 31
Ecuador Panama Peru Argentine Republic. Venezuela Other countries.	14, 874, 00 3, 690, 58 1, 545, 00 50, 00 390, 00	1, 200. 00 200. 00 71, 664. 00 29, 580. 00 750. 00
WEST INDIES.	47, 657. 97 1, 977, 359. 00	103, 394. 00 2, 372, 180. 00
Other countries	83,743.00 2,061,102.00	2,000.00 2,374,180.00
Australia		800.00
Europe Asia North America Central America South America West Indies Oceania	69, 504, 371, 01 1, 090, 00 170, 309, 941, 19 814, 744, 35 47, 657, 97 2, 061, 102, 00	68, 482, 705, 06 796, 00 176, 265, 802, 63 790, 332, 31 103, 394, 00 2, 374, 180, 00 800, 00
	242, 738, 906. 52	248, 018, 010.00

CONSTRUCTION OF THE NAZAS RIVER DAM.

Contracts have been entered into between the Mexican Government and the representative of the company of S. Pearson & Son, for the preparation of plans for the proposed dam at Cañon de Fernandez, in the State of Durango, for the storage of the waters of the Nazas River. The contract also provides for the preparation of plans by the same company covering the necessary works for distributing water throughout the Laguna district.

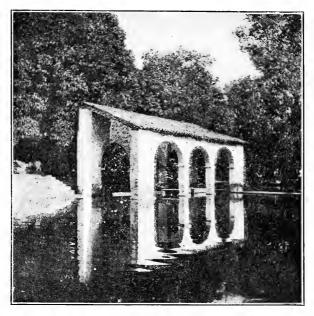
IRRIGATION IN THE COTTON DISTRICT.

One of the immediate benefits to be derived from the construction of the Nazas River dam at San Fernandez will be an immensely increased cotton yield in the Laguna district. This section of Mexico is a level basin with wonderfully fertile lands suitable for the culture of cotton. The district is dotted with factories and traversed by railroads for the transport of both raw and manufactured products, while the surrounding mountains are impregnated with rich metal deposits.

At present the mineral production is the leading source of revenue to Lerdo, Gomez Palacio, and Torreon, the centers of industrial life in the district, but it is anticipated that the proper distribution of MEXICO. 765

the Nazas water supply will not only double the output of cotton but also give immense impetus to other agricultural enterprises.

Experts of Europe claim that the Laguna cotton is of remarkably strong fiber and of excellent texture and color. The total crop of the Republic for 1907 was 80,000 bales, and as the consumption in the mills was about 155,000 bales, large quantities are imported to meet local demand. The imports of textile fibers by Mexico for the fiscal year 1907–8 were nearly double in value those reported for the preceding year, the annual imports from the United States being estimated at about 50,000 bales.



IN THE LA BORDA GARDENS, CUERNAVACA, MEXICO.

This beautiful garden was designed by José de la Borda, a millionaire miner, a century and a half ago. Its terraced slopes, fountains, running streams, and artificial cascades, adorned with the rich verdure of a multitude of tropical and subtropical trees and plants, is the realization of a miner's dream of fairyland. This veritable paradise was a favorite spot of the unfortunate Carlotta, Empress of the ill-fated Maximilian.

In 1906, the cotton yield was far in excess of the demand, and 50,000 bales were shipped to Europe, but, lacking sufficient and regular water supply, the growers are unable to accurately gauge the output from year to year. This uncertainty will be overcome by the agency of the San Fernandez dam.

COMMERCIAL VALUE OF GUAYULE.

In connection with the increased shipments of guayule from Mexico during the fiscal year ending June 30, 1908, when the valuation was given as over \$500,000 in excess of the preceding year, it is significant

that receipts of rubber in the United States from Mexico, mainly guayule, are steadily on the increase.

From January to December, 1907, total exports of guayule aggregated 11.900,000 pounds, of which, according to the "India Rubber World," 9,400,000 were sent to the United States and the remainder to Europe. In the first six months of 1908 guayule was sent abroad to the amount of 8.910,000 pounds, of which 6,980,000 pounds were exported to the United States and 1,830,000 to Europe.

Of total rubber imports, amounting to 62,233,160 pounds, by the United States in 1908, Mexican rubber figured for 9,269,443 pounds, as against 1,705,915 in a total of 57,884,345 pounds in 1906.

THE PALO COLORADO AS A RUBBER PRODUCER.

Since the exploitation of the guayule business, with its attendant financial success, prospectors have been investigating other plants and trees in Mexico in the hope of meeting with similar good fortune.

The investigators confidently expect to more than duplicate what has been achieved with the guayule plant by utilizing the palo colorado. They claim that the sap from the palo colorado tree contains over 33½ per cent of pure caoutchouc. Several tons of sap have been gathered and is being experimented upon. The results of the experiments have not been made public, but the fact of bonding large tracts of land would indicate that the promoters have great confidence in the ultimate outcome.

The palo colorado cucuracho tree grows fairly abundantly on the Pacific slope of the Sierra Madre Mountains at an elevation of from 2,500 to 4,000 feet above sea level, and it forms in many places the line of demarcation between the pine and oak timber.

The largest and most thrifty growth is to be found in the shady places—that is, in the shade of other trees of a larger growth or in the mountain ravines where the sun shines little. The tree attains an average height of 24 feet, and in diameter is from 8 to 14 inches.

The leaves are large, oval in shape, usually three on a stem, sometimes five, the leaf stem being about 6 inches in length and the size of a lead pencil. A person handling the leaves experiences the same sensations as in handling nettles. The tree bears a large white blossom, commencing to flower in May and continuing in flower until late in August. The bark is a dark reddish gray in color, very soft and thin. It is tapped in the same manner as the true rubber tree, and when tapped there exudes a thick white sap which, as it is exposed to the air, becomes semisolid. The pans used in collecting are wet to prevent the sap from adhering. The season for sap gathering continues throughout the whole year. When tapped the larger trees

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produce as much as a kilogram (2.2 pounds) per day, but after one or two days' run the cut is closed with clay to allow the tree to regain its vitality.

The guayule, or rubber substitute, five years ago was practically unknown as a commercial factor. In the year 1905 there was exported to the United States nearly \$125,000 worth; with the year ending June 30, 1908, the exportations of the product of this plant amounted to over \$2,250,000 from the consular district of Durango alone. The guayule business has grown to one employing several thousand men and capitalized to the extent of over a million dollars.

BANKING INSTITUTION FOR AGRICULTURAL AND IRRIGATION PROMOTION.

The concession authorizing the establishment of a banking institution in the Mexican capital to serve as an aid to agriculture and to irrigation enterprises in the Republic was signed by the Minister of Fomento on September 3, 1908, the concessionnaires being representatives of the following banks: The National Bank of Mexico, the Bank of London and Mexico, the Mexican Central Bank, and the Mexican Bank of Commerce and Industry. The primary purpose of the institution is to furnish funds on long time and at moderate interest to national irrigation, agricultural, and stock-raising concerns, and, in a supplementary manner, for the exploitation of mineral, fuel, and metallurgical works.

The initial capital is placed at a minimum of \$10,000,000 Mexican and the Federal Government binds itself to guarantee both as to principal and interest, the bonds or obligations which the bank is to issue in order to accomplish the purposes of its being, subject to the following conditions:

- (1) The total nominal value of the bonds or obligations shall not, for the present, exceed \$50,000,000 Mexican, or the equivalent of that sum in foreign coin. This amount may not be exceeded without authorization by the Federal Congress and unless the bank capital be increased in such proportion that it shall never be less than one-fifth of the amount of the bonds or obligations guaranteed by the nation.
- (2) The rate of interest, the rate of issue of the bonds or obligations, and the conditions for their amortization will be decided in every case with the approval of the Department of Finance.

A report and balance sheet covering the status of the institution shall be presented semiannually to the Government, the particulars of which shall be published in the "Diario Oficial."

The terms of the loans to be made by the bank shall not exceed fifteen years on mortgage securities, and in other cases the duration

is limited to three years. On neither shall the rate of interest exceed 7 per cent, save by special permit of the Department of Finance and Public Credit. The rate may also be ordered decreased by the same Department when the bank, by means of Federal guaranties, is enabled to secure funds at an actual interest disbursement of less than 5 per cent per annum.

Loans on mortgages shall not exceed 60 per cent of the value of the property affected, appraisement being made either in accordance with the opinion of specially appointed experts or with the tariff for the sale of vacant lands in force at the time of the proposed transaction.

The incorporation of the bank is to take place by public deed by November 3, and one month thereafter is assigned as the time limit for the approval of the statutes by a general meeting of the shareholders, both deed and statutes to be subject to approval by the Department of Finance and Public Credit.

The life of the company is fixed at fifty years, unless it be extended by an act of the Federal Congress and by virtue of a resolution of the shareholders.

The limit of the operations of the bank is set forth in article 3 of the concession.

CUSTOMS RECEIPTS, JULY, 1908.

Figures covering the customs receipts at the various ports of the Mexican Republic for July, 1908, aggregate, for imports, \$2,806,731 Mexican (\$1,403,360), and for exports, \$30,304.71 Mexican (\$15,152).

THE SALTILLO WHEAT CROP.

It is reported that the wheat crop in the Saltillo district of Mexico has proved to be even smaller than earlier estimates indicated, and the supply of native wheat will not last the mills longer than September if they are run steadily. A petition has been forwarded to the Federal Government asking for the removal of duties on imported wheat. Without waiting for the abolition or reduction of import duties one miller of Saltillo has already ordered ten carloads of wheat from the United States.

The retail price of flour at Saltillo is now about \$5.60 United States currency per 100 pounds. The import duty is about \$2.25 per 100 pounds.

DEVELOPMENT OF OIL FIELDS.

United States Consul William W. Canada, of Veracruz, reports that there has been great activity in different parts of Mexico in prospecting for and developing oil lands, and a number of American syndicates are said to have obtained options on extensive tracts of land in the States of Tamaulipas, Veracruz, and Chiapas.

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A large number of deals have recently been closed, and the necessary drilling outfits have been brought from the United States. Test borings are taking place in every direction, and reports of new wells struck are of frequent occurrence.

The Huasteca Petroleum Company has been granted a very favorable concession for the exploitation of oil lands in the northeastern part of the State of Veracruz. Machinery, tankage, and supplies for this venture may come free of duty and are also exempt from Federal taxation for a term of years. The company has a capital of \$250,000 gold and is organized under the laws of Mexico. Arrangements are under way for the construction of a pipe line to Mexico City.

In the Pichucalco district, in the State of Chiapas, the Anglo-Mexican Oil Fields (Limited) is putting down a number of wells and is said to have struck a good flow of oil near El Chapapote at a depth of only several hundred feet. The same company is opening up a new field on the San Carlos hacienda, near El Caimbe.

STOCK AND AGRICULTURAL FAIR AT COYOACAN.

The Mexican Government has granted a concession for the establishment of a stock and agricultural fair at Coyoacan, a suburb of the capital of the Republic. Exhibits of cattle, fowls, domestic animals, agricultural products, machinery, and tools will be made at stated intervals, and prizes will be given to the exhibitors making the best displays. The Government agrees to make an annual appropriation of 27,000 pesos (\$13,500) as a prize fund, to be awarded to exhibitors either in money, medals, diplomas, etc., and to pay the company an annual subvention of 6,000 pesos (\$3,000) to be used in the conservation and repair of buildings, expenses of administration, and other necessary outlays. Should the company decide to sell its property the Government retains the right to acquire it, should it desire to do so, in preference to any other purchaser. With the consent of the Government, other fairs and expositions may be held in the buildings and on the grounds of the company, provided they do not interfere with the stock and agricultural fairs referred to in the concession. The contract will remain in force for five years from August 10, 1908.

CONCESSION FOR THE STORAGE AND SALE OF COAL AT MANZANILLO.

The Mexican Government has authorized Edgar K. Smoot to construct a building or buildings at Manzanillo, State of Colima, Mexico. for the storage and sale of coal at that port. The plans of the buildings, wharves, and railway terminal facilities of the coaling station must be submitted to and receive the approval of the Government within twelve months from August 13, 1908. The concession is for a period of thirty-five years.

CAPITAL OF THE BANKS OF THE REPUBLIC.

On January 31, 1908, the capital of the banks of the Republic aggregated 171,600,000 pesos (\$85,800,000), while on June 30, 1908, it had risen to 176,100,000 pesos (\$88,050,000), an increase of 4,500,000 pesos (\$2,250,000) during the period referred to.

WATER POWER IN THE GUADALAJARA DISTRICT.

An estimate prepared for the Mexican Central Railway in regard to the water power available in the city and tributary territory of Guadalajara shows the enormous total of 200,000 horsepower.

According to a conservative estimate, the Bermejillo concession at Juanacatlan, with 15,000 liters of water per second and 57 meters of fall, has a theoretical power of 11,400 horses; the Manuel Cuesta Gallardo concession, with 15,000 liters of water per second and 250 meters of fall, covers 50,000 horsepower; the French or Negrete concession, with 15,000 liters of water per second and 110 meters of fall, 12,000 horsepower; the Perez-Vasquez-Rogers concession, with 15,000 liters of water per second and 210 meters of fall, 42,000 horsepower. This gives a total theoretical power of 115,400 horsepower, leaving still unapplied nearly 100,000 horsepower available for industrial purposes for delivery in Guadalajara.

The concessions mentioned control the Santiago River from Lake Chapala to a point 2 kilometers below San Cristobal, covering a total distance of about 90 kilometers, the river forming a semicircle around

Guadalajara.

Lower down on the river additional power aggregating about 100,000 horsepower is obtainable, the total amount being within 25 miles of the city.

The companies operating concessions in the vicinity are importing much new machinery, and the owner of one of the most valuable has recently secured the rights covering the lighting and power system of Guadalajara.



THE MINING INDUSTRY IN THE REPUBLIC.

An extended review of the mineral industry of Nicaragua, furnished from Bluefields to the "Mining Journal" (London) for August 22, reports gold shipments from the Atlantic coast of the Republic during 1907 (fiscal year) to the value of \$800,000. For the year ending June 30, 1908, the general decline as compared with

the figures for the preceding year amounted to about \$100,000, of which \$50,000 is credited to exports from Bluefields. For 1907 the Bluefields shipments of gold were reported by the American consular agent at that port as \$557,550, a record being established thereby.

Exports do not represent the entire production of the Republic, as a portion of the output is made up into native jewelry; some goes into the interior of the country and to Honduras, and part of it taken from the country as contraband. These supplementary portions were scheduled in 1907 at \$200,000, so that the entire output for that year may be figured at \$1,000,000.

Duties on gold are paid in export bonds, in the absence of which a surcharge of 50 per cent is made. About 100 square miles of fine mining property are held by the La Villebeuvre concession, while the United States and Nicaraguan Company have property rights in several thousand square miles of mining ground, railroad and telegraphs, river navigation, etc., having spent \$1,000,000 in developing their concession. Another company operating under the name of the Siguia Mining Company holds mineral rights of 18,000 hectares (about 45,000 acres); also concessions for dredging the three small rivers between Bluefields and Greytown, along which the lands lie.

EXPORTS FROM BLUEFIELDS, FISCAL YEAR 1908.

The gross value, in gold, of merchandise shipped from Bluefields to the United States for the year ending June 30, 1908, as reported by Mr. M. J. Clancy, United States Vice-Consul at that port, was as follows:

Alligator hides, 328 pounds	\$73.07
Amalgam (gold)	69, 366. 13
Bananas, 970,000 bunches	409, 905. 90
Cocoanuts, 49,700	1,564.99
Copper ore (samples)	5, 53
Deerskins, 326 pounds	76.59
Gold (bullion), 27,274 ounces	429, 799. 81
Household goods	296.68
Hides, 597 pounds	70.90
Maps	250.00
Oranges, 15,000	70.00
Pineapples, 3,850	234.38
Rubber, 209,784 pounds	129, 261. 78
Soles, 33,505	14, 189, 57
Tuno, 510 pounds	82. 50
Turtle shell, 640 pounds	3,665.12
United States gold and currency	1, 500. 00
Wood, 70 pounds	11.31
Yellow metal (old)	147.14
American goods returned	5, 070. 65

The total of the above items is \$1,065,642.05, which includes the regular duty, export bonds duty, *bodega de revisión*, concession and subconcession charges, bluff wharf tax, freight, insurance, and other expenses.

The shipment of alligator hides, bananas, cocoanuts, rubber, and turtle shells is controlled by concessions.

CONCESSION FOR ASIATIC IMMIGRATION.

United States Consul José de Olivares writes from Managua that the Nicaraguan Government has given a five-year concession to a Mexican, granting the right to introduce Chinese and Japanese immigrants into Nicaragua for employment as laborers in connection with plantations and other industries in the country. This concession, however, is conditioned on the establishment by the concessionaire, within the period of one year, of a line of steamers from Hongkong, touching at Shanghai, San Francisco, Salina Cruz, and Central American ports, including Corinto and San Juan del Sur.



MESSAGE OF THE PRESIDENT.

President M. Amador Guerrero in delivering an interesting message to the Congress of the Republic of Panama, assembled in regular session, on September 1, 1908, stated that the Republic continues to maintain amicable and friendly relations with all the nations of the world, as is shown by the cordial treatment of the diplomatic representatives of Panama in the New and in the Old World, and by the honors accorded him during his recent unofficial visit to the United States and to some of the cities of Europe.

The Republic of Panama was represented at the Second International Peace Conference held at The Hague, and will send delegates to the International Commission of Jurists, that will meet in the capital of Brazil in compliance with a resolution of the Third Pan-American Conference held in Rio de Janeiro in July and August, 1906.

Referring to telegraph construction, the President recommends a considerable increase in that item of the budget, in order that telegraph lines may be extended to all the important districts and settlements of the country, some parts of which are at present without this useful and rapid means of communication.

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The foreign postal service is being operated in a satisfactory manner and in accordance with the provisions of the Universal Postal Union. Panama has celebrated, from time to time, a number of postal conventions with different countries of Europe and America. Internal postal communication answers the present local wants, but the President recommends the enactment of measures for the extension and betterment of the service to meet the growing demands of the nation, and suggest the employment of a larger number of women in that branch of the public service.

Regarding the finances of the nation, it is interesting to note that the cash balance on February 20, 1904, when President Guerrero



ANCIENT TOWER OF THE OLD CITY OF PANAMA.

This old tower, overgrown with vines and vegetation, marks the site of the original city of Panama, founded 5 miles inland from the present city in 1515. It flourished until 1671, when it was wantonly destroyed by Morgan, the buccaneer.

became the Chief Executive of the Republic, was \$3,149.77, which amount, plus \$10,000,000 received from the Panama Canal negotiations, made a total of \$10,003,149.77. During the present administration \$206,469.40 was paid out of the aforesaid sum on account of loans made by the Provisional Government Board and subsequently to defray expenses incurred by order of the said board; \$3,250,000 have been invested in public works of unquestioned utility to the country. Notwithstanding these outlays, the credit balance of the Republic on June 30, 1908, consisted of \$7,860,696.68, represented by deposits and mortgages in the United States, \$250,000 on deposit

in the Mortgage and Security Bank (Banco Hipotecario y Prendario), and cash on hand in the General Treasury of the nation to the amount of \$33,473, making the total available assets at the time mentioned \$8,144,169.68. During the four years of the present administration the outlay of the Government for public improvements and current expenses was only \$1,859.320.66 in excess of the receipts from the regular sources of revenue, which excess represents useful and substantial improvements made throughout the entire country.

The revenue system of the Republic is founded on import duties on foreign merchandise and internal taxes on liquors. The President recommends that these sources of revenue be preserved and that protection be given to some of the new industries recently established in the Republic, the principal one of which is the rearing of stock, and suggests that the bounty system be carefully studied in order to see if it would be of benefit to adapt it in some cases in the encouragement and development of some of the newer industries of the country.

The President manifests a keen interest in the cause of public education, and states that there has been considerable growth and improvement in primary instruction in Panama. There has been established in the capital a School of Arts and Trades, which promises to become one of the most useful and salutary institutions of the country. The capital also has a primary training school to supply teachers for the education of the aborigines of the country.

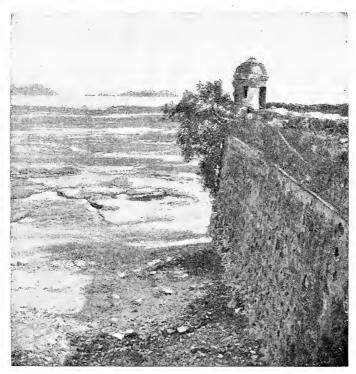
Nearly all the public works commenced under the present administration have been successfully terminated. Among these the most worthy of mention are the Government Palace and the National Theater. These two buildings were erected at a cost of a little over \$700,000, the Government Palace being now in use, and the theater soon to be opened to public service. Many other public works, such as the construction of buildings, bridges, wharves, and the opening, improvement, and extension of roads, have been undertaken and completed during President Guerrero's administration.

Another important event which has occurred during the present administration has been the encouragement to steam navigation in the coastwise trade of the Republic. The Government has subventioned a maritime company, and a satisfactory coastwise service has been established for the Pacific coast region, and the benefits derived from this sure and convenient mode of communication are already being felt all over the country.

The charitable institutions of the country have received the special attention and encouragement of the administration, the Santo Tomas Hospital having been completely renovated and placed in first-class condition. The number of patients treated in this institution in 1907 was 4.316, the death rate being less than 8 per cent. The other prinPANAMA. 775

cipal eleemosynary institutions of the capital are the Lying-in Hospital and the Bolivar Asylum, the first named having treated 103 cases during the last seventeen months, and the latter having been of great benefit to the unfortunate poor of the Republic.

The President closes his message by strongly recommending measures that will tend to attract currents of immigration to Panama, calls attention to the favorable sanitary condition of the country at the present time, to its safety as an abode for immigrants, and to the benefits agricultural immigrants would lend to the development and material progress of the Republic.



OLD SEA WALL AND WATCH TOWER OF THE CITY OF PANAMA.

When these fortifications were erected they were among the most formidable in the world, and have successfully resisted many an onslaught from buccaneers. The bay of Panama, which is about 50 miles across, contains a number of protruding rocks and odd-shaped islands, upon one of which Pizarro fitted out his expedition for the conquest of Peru.

FINANCIAL STATUS IN 1908.

The report issued by the Secretary of the Treasury of the Republic of Panama for the six months ending June 30, 1908, shows credit balance of the Government on that date as \$7,860,696.68. Of this, \$6,000,000 gold is represented by first mortgages on real-estate holdings in New York City paying 4½ and 5 per cent interest. In addition, \$1,505,307.03 is on deposit as account current in the same city.

National receipts during the six months covered by the report amounted to \$1,259,574.15, from the following sources: Liquor tax, \$231,704.07; match tax, \$6,297.68; salt tax, \$2,018.63; from stamped paper, \$25,275.54; lottery tax, \$31,000.34.

A balance after paying the expenses of the Government for the six months to the amount of \$105,307.03 was turned into the Treasury, and for current expenditures there were at the end of June, \$55,389.65.



FRANCHISES FOR THE MEAT INDUSTRY.

The President of Paraguay promulgated on July 7, 1908, a general law governing the granting of franchises, valid until December 31, 1935, to meat extract and canning companies organized in accordance with its provisions. Under the terms of this law any company desiring to engage in the industry of extracting and canning meats is allowed to import, free of duty, the material and machinery necessary for the erection of the factory and the installation of the machinery, together with other supplies and substances, such as packing boxes and material and machinery for their manufacture, required in the preparation of the output of the plant. Coal for fuel may also be imported without the payment of duty.

The free importation of cattle is permitted from the Argentine Republic and the State of Matto Grosso, Brazil, if there is no epizootic at the places where the shipments originate, and provided the sanitary laws and customs regulations of the Republic of Paraguay are complied with. No export duty will be levied on the products and by-products of the industry, but lighterage and storage charges will be collected if use is made of the equipment, cranes, and stevedores of the Federal custom-houses, but should the company use its own wharf in loading and unloading, it shall be exempt from the aforesaid charges.

The Executive reserves the right to specify the minimum number of animals that shall be slaughtered annually in the establishment operating under this law, and should the company fail for a period of twelve consecutive months to slaughter said minimum number, this omission, *ipso facto*, shall work a forfeiture of the concession, unless such failure was due to an act of God or unavoidable circumstances. The Executive will also appoint an inspector to guard the interests of the State and to see that only healthy animals are slaughtered, the salary of said official to be paid by the company.

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The President will decide annually, and in each particular case, after having received the report of the customs administrator, based upon the importance of the output of the factories, concerning the merchandise that may be imported free of duty in accordance with the provisions of this law. Meat extract and canning factories shall only pay a Federal tax of 20 cents gold for each animal slaughtered in lieu of an export duty on hides.

All articles imported or exported by the concessionaires in violation of the provisions of this law are subject to confiscation by the State and to the forfeiture of the concession. The companies organized under this law must have their legal domicile in the Republic and keep their accounts in Spanish.

No more favorable concessions than those provided for under this law shall be granted to any meat extract or canning company without also applying to the companies organized under the provisions of this act.

LIVE-STOCK CONVENTION WITH THE ARGENTINE REPUBLIC.

On July 16, 1908, the Government of Paraguay approved the convention signed at Buenos Aires on May 30, 1908, between the representatives of Paraguay and the Argentine Republic, regulating the interchange of stock between the two nations.



MINERAL RESOURCES AND MINING LAWS.

An exhaustive consideration of the resources and mining laws of the Republic of Peru has been furnished the "Mexican Mining Journal" by the Minister of Fomento of the Peruvian Government, who states that if nature has favored the country with great riches in all departments of the vegetable kingdom it has been even more prodigal with its gifts in the mineral kingdom. As its fertility is extraordinary, as its vegetation is exuberant, and its flora rare and varied, the country is even richer in the great abundance and variety of its minerals. The resources of the country in this line include gold, silver, copper, lead, mercury, tin, bismuth, zinc, iron, cobalt, molybdenum, arsenic, wolfram, vanadium, antimony, mica, manganese, aluminum, graphite, potash, soda, silica, salts, sulphur, bituminous coal, peat, asphalt, pitch, petroleum, etc.

The discovery and exploitation of the principal mining districts of Peru constitute an interesting chapter in the history of the period. The natural development of the industry was halted at the beginning of the eighteenth century, primarily caused by Indian rebellions, which were followed by the long wars for independence, so that in 1824, when Peru achieved her independence, the mining industry had fallen into decay. During the first years of independence the established Government could do but little to promote the progress of the industry, and the lack of capitalists and practical mining operators militated against its development. With the establishment of the School of Mines in 1876 and the enactment of the mining law of 1877 the rehabilitation of the mining industry was initiated.

The promulgation of a new mining code in January, 1901, gave new impulse to mineral development and it is to the judicious and



GOLD MINING AT POTO, PERU, 16,000 FEET ABOVE SEA LEVEL.

Enormous deposits of auriferous gravel are washed by hydraulic methods. Peru's mineral output for 1907 amounted to \$18,000,000.

liberal legislation on the part of the Government that the progress noted in recent years is due. This code facilitates to the greatest extent the acquisition of claims and permits the greatest freedom in working the properties while guaranteeing absolute protection to the rights acquired. Mining rights are free to all nationalities, the only requirement being the payment of a semiannual tax of 15 soles (about \$7.50) per pertenencia. Furthermore, a special law passed in 1860 provides that until 1915 it will not be possible to burden the mining industry nor the exports of the products thereof with any new tax.

The usual dimensions of a pertenencia are 200 by 100 meters, but for coal and oil, as well as for placers of silver, tin. etc., it has the PERU. 779

form of a square, 200 meters to the side. The number of pertenencias that may be denounced is practically unlimited, though the law provides that the maximum of contiguous pertenencias shall not exceed 60. A documentary stamp of 5 soles (\$2.50) must be attached to each petition of denouncement, which is the only fee imposed on the transaction, whether the denouncement cover 1 or 60 pertenencias.

The National Government, through the Department of Fomento, directly supervises the adjudication of mining concessions of all classes. The Minister of Fomento has in his charge the formation of the "Padrón General de Minas," which is the official register for the inscription of all concessions.

The importation of machinery, supplies, tools, etc., for use in mining operations is exempt from duties, the same being true as regards coal, lumber, dynamite, mercury, and all material necessary for the construction and operation of railroads.

The Corps of Mining Engineers, created in 1902, has for its object the further development of Peruvian mines by exploring and making known by means of commissions new mineral districts, describing also the geological formations and magnitude of the lands explored. The results of these important works are published in special pamphlets, profusely illustrated with photographs and maps.

The influence and participation of United States capital have been prominent factors in the recent evolution of Peruvian mines, many successful enterprises having been undertaken, while others are in process of organization. The Cerro de Pasco Company and the Inca

Mining Company are specially noteworthy examples.

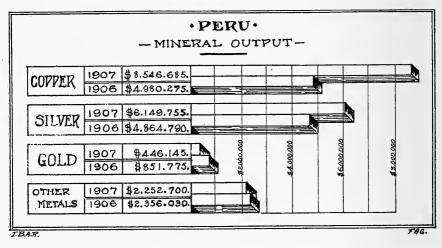
The mineral output of 1907 is valued by President Pardo at \$17,395,285, that of the preceding year having been \$13,052,870. While copper maintains the first rank, with \$8,546,685, the value is almost double the figures cited for 1906, when \$4,980,275 represented the value of the output. Silver, the next ranking item, was produced to the value of \$6,149,755, against \$4,864,790 in the preceding year, whereas gold declined from \$851,775 to \$446,145. Other minerals, with the exception of coal, increased the value of their output.

The increased number of petitions for denouncements of mining properties is practical evidence of the growth of the industry, it being stated that the adjudicated claims during the first half of 1908 exceeded those of the preceding half year by 3,334. According to the "Codigo de Minería," in 1906–7 the superficial area conceded for mining purposes in the Republic aggregated 71,000 hectares (about 275 square miles).

The developments in copper mining are particularly numerous and important. The United States company now operating at Cerro de Pasco produces approximately 40 tons of copper daily, or an annual output of 15,000 tons. The smelters recently erected at Ancah, Yauli,

Pisco, etc., will greatly augment the copper production, and the development of large deposits lately discovered at Huayllay, Quiruvilca, Apiacancha, Cachi-Cachi, and elsewhere have proven very valuable, so that it is estimated that within a short time Peru's annual shipments will amount to 50,000 tons, thus bringing the country third only to the United States and Mexico as a producer.

Silver is found disseminated through all the Andean region, commonly associated with lead or copper and frequently with both. "Cascajo," a mineral without metallic brilliancy and of a reddish color, due to its proportion of iron oxide, is a silver-bearing mineral peculiar to Peru, and, with copper, forms the great deposit of the Cerro de Pasco district. The best known silver districts in the north are Hulgayoc, Salpo, and Callejon de Huaylas; in the center are Catajambo, Huarochiri, Yaule, Cerro de Pasco, Huallanca, Castrovireyna, and in the south, Lucanas, Cailloma, Lampa, and Puno.

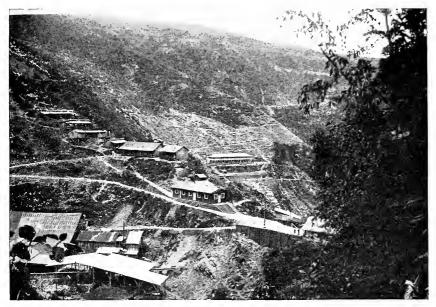


Copper distribution is common both separately and in combination throughout practically all of the Republic. Veins, chiefly of copper containing a small portion of silver and traces of gold, abound on the coast in Chimbote, Ica, and Lomas. The sulphurides, arsenical and antomoniacal ores are found in great abundance in the Andean country, and are the objects of considerable exploitation in the mining camps of Cerro de Pasco, Yauli, and Ancaho. The famous ore bodies of Cerro de Pasco are situated in the union formed by the Cordilleras of the east and west Andes, at the bottom of a valley surrounded by "cerros" of slight elevation. This deposit is a great ore body of copper, silver, gold, and lead, with several other minerals in a less scale, among which is vanadium.

Gold is found in veins of ferruginous quartz in the spurs of the western Cordilleras and in the same form in the rest of the Andes PERU. 781

region, associated generally with other metals, as silver and copper, and in the form of scattering flakes it is found in the alluvial deposits and also in the sands that are washed off the mountains during the freshets. On the coast the richest gold zone is that of Nasca and Camana; in the Andean region, those of Huanuco, Aymares, Catabambas, Pataz, and Quispicanchi, and in the Montaña those of Sandia and Carabaya, that of Marañon, and various others.

Lead abounds principally in the form of argentiferous galena, and the famous historical mine of Santa Barbara, celebrated for its mercury in colonial times, is located in the Department of Huancavelica. Cinnabar is found in the vicinity. Notwithstanding the abundance of tin in the Andes contiguous to the Bolivian border, it has been



SANTO DOMINGO MINE, PROVINCE OF CARABAYA, PERU.

This gold mine, situated in the Montaña district, on the eastern slope of the Andes, is the property of Pennsylvania capitalists.

found in Peru only in the Provinces adjacent to that Republic, such as Huancane, Department of Puno, but without economic importance. Iron is of common occurrence, but has not as yet been the subject of exploitation.

Peru contains immense coal beds, anthracite being found in the Chimbote and Huarez districts, in the Provinces of Otuzco, Huamachuco, and other places. Bituminous coal is found in the Departments of Cajamarca, Ancahe, Junin, Ica, Arequipa, Puno, and Moquegua. There are a number of deposits that might be exploited with profit, the most valuable under working being in the vicinity of Cerro de Pasco.

Petroleum is found in the neighborhood of Chimbote, in the Calaveras Mountains of the Province of Casma, in the district of Palpa, Province of Ica. In the district of Puse, Province of Huancane, Department of Puno, great deposits of petroleum have been developed by drilling, and it has been located in many other sections. The discovery of new petroleum deposits in southern Peru near Lake Titicaca will add considerably to Peru's supply of this combustible.

The metallurgical plants now in operation number 89, of which 19 are for amalgamation, 32 for lixiviation, 23 smelters, and 12 concentrating with lixiviation and other processes. There are also 2 petroleum refineries and 1 for sulphur. About 13,000 persons are employed in the exploitation of the various mining developments of the Republic.

DEVELOPMENT OF COMMUNICATION FACILITIES.

Many notable public improvements have been undertaken during the able administration of President José Pardo, who was inaugurated as the Chief Executive of Peru on September 24, 1904. Some of these works have already been completed, while others are still in process of construction. The following is a list of some of the most important of these enterprises:

HIGHWAYS.

One of the most important national highways of the Republic is that now under construction between Paucartambo and the Madre de Dios River, a distance of 200 kilometers (125 miles), the estimated cost of which is £34,000. Before this road can be completely opened to traffic two large bridges, costing £14,500, will have to be constructed over the Pini and Tono rivers. When this highway is completed and after the railway reaches Cuzco, the trip from Mollendo to the Palotoa River can be made in five days, viz: One-half day by rail from Mollendo to Arequipa; one-half day by rail from Arequipa to Caycay; one day on horseback from Caycay to Paucartambo; one and one-half days from Paucartambo to Asuncion; one day by horseback from Asuncion to Palotoa, and one-half day on the Palotoa River to Manu. Navigation from Palotoa is made without any risk whatever.

The road from Cajamarca via Chachapoyas to Moyobamba, and from the latter place to Balza Puerto and Yurimaguas, is another public highway that is destined to become an important factor in the material development of the northern part of Peru. The length of this road is about 600 kilometers (373 miles), and the cost of construction will not be less than £12,000. About 50 kilometers (31 miles) of this highway have been constructed.

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The roads from Casma to Huaras, 151 kilometers (93 miles), and from Recuay to Caraz via Carhuaz and Yungay, 101 kilometers (63 miles), and other roads in the Department of Ancash, are being improved and extended.

The Atoghuarco pass of the public road from Cerro de Pasco to Huanuco is being prepared for the reception of a substantial bridge that is to be erected at that place. Four surveys have been made of the road between Huanuco and the Mozon Mountains, and plans have been made to build and improve many other roads in the Republic.



THE STONE BRIDGE, LIMA, PERU.

The first bridge across the Rimac River was a wooden structure, built in 1554. Fifty-six years later it was replaced by a stone bridge, which has withstood the ravages of time, and is to-day the principal highway connecting the banks of the river.

A valuable improvement to the suburbs of the capital is the construction of a beautiful avenue between Miraflores and El Mar, establishing in this manner direct communication between Lima and the places mentioned.

BRIDGES.

Bridges are being constructed over the Cresnejas, Cumbil, Pativilca, and Santa rivers, and at different places in the Republic, such as Quiroz, Recuay, Lambayeque, Atoghuarco, Chalhuanca, Huarocondo, Huarancalla, and Challa. Arrangements have been made to construct bridges at Tambo, Majes, Piahuasi, Ranus, Tono, and Piñi

Piñi, and bridges are being built or repaired at Ququijana, Huari-pampa, Llocllapampa, and Huaquillas.

RAILWAYS.

At the end of September, 1904, there were 1,741 kilometers (1,082 miles) of railways in operation in the Republic and 106 kilometers (66 miles) in construction. Since that time 284 kilometers (176 miles) of railways have been completed, 358 kilometers (222 miles) are now under construction and will be finished by the end of the present year, and 2,010 kilometers (1,246 miles) have been surveyed and steps taken toward their construction.

COTTON GROWING IN THE REPUBLIC.

The average value of Peruvian cotton is about \$2,500,000 annually. The general conditions for the cultivation of cotton in the valleys and lowlands of the west coast of Peru are exceedingly favorable to the growth and development of this important fiber-producing plant, and insure a long and prosperous life to this branch of the agricultural wealth of the nation. Considerable variations in the manner of cultivating cotton in different parts of the Pacific coast of the Republic exist, due largely to the situation and productiveness of the land, the water available for irrigation purposes, the abundance or scarcity of labor in the different cotton-growing sections, and above all to the effect of the climate upon the growth of the plant and the quality of the product.

There are large tracts of land suitable for the cultivation of cotton available on the west coast in the valleys of the rivers and streams that flow down from the Andes Mountains to the Pacific Ocean. soil of the parts of the valleys adapted to the cultivation of cotton is formed of successive layers of alluvial deposits, and, under the stimulus of proper irrigation, is rendered exceedingly productive. In the famous cotton-producing departments of Lambayeque and Piura the valleys near the sea spread out into considerable plains of unsurpassed fertility, and the slope of the land toward the ocean is, generally speaking, such that irrigation along the mountain streams and rivers is rendered inexpensive, easy, and profitable. Water is most abundant in the summer months at the time vegetation is most vigorous and when the cotton plants require the greatest moisture for their proper growth and development. Sometimes the streams, fed by the melting snows and copious rains of the upper Andes, slightly overflow the plains and deposit thereon a rich sediment of alluvium which fertilizes and stimulates the growth of the cotton plant.

Cotton is a surer and more suitable crop to cultivate in this part of Peru than sugar cane, since the latter needs water all the year PERU. 785

round, while the former requires, relatively, but little water for its development and thrives with intermittent periods of moisture and irrigation. Climate, soil, and facility of irrigation make the cultivation of cotton in many of the valleys of Peru similar to that followed in the noted cotton belt of Egypt, and the quality and excellence of Peruvian cotton have long been celebrated in the cotton markets of the world.

In northern Peru, Paita is the chief port for the export of cotton, while Piura is the center of its production and preparation for the market. In the latter Department, five good crops, the first in the same year it is planted, and two crops annually during the two suc-



CONCEPCION MARKET, LIMA, PERU.

Lima has four market places, this being the principal one. It occupies both floors of the building, which covers an entire block. It is well ventilated and equipped and is supplied with a great variety of meats, birds, fish, vegetables, and fruits.

ceeding years, may be obtained from one planting, the first crop being somewhat light, the second fair, the third of greatest abundance, and the two remaining crops yielding a diminishing return as compared with the third or maximum crop. Cotton from the Department of Piura is usually classed as "rough Peruvian," notwithstanding the fact that it varies greatly in quality, length of staple and color, and close resemblance of the fiber of some grades to wool, so much so that it has been called "vegetable wool." This kind of cotton is in great demand by manufacturers of ladies' fine merino underwear and hosiery.

A field of fully developed Peruvian cotton is most beautiful to behold, the plant containing at one time the flower, the boll, and the open cotton ready for the picker. Piura cotton has never been successfully grown in any other part of the world, due, probably, to the peculiar climate and soil required for its development and growth, and to the periodic seven-year rains for which this narrow belt of the coast land of Peru is noted.

There is a unique variety of Peruvian cotton of a delicately brownish tint, the fiber of which resembles wool, that is much sought for in commerce, inasmuch as it requires no dyeing to prepare it for a popular color of underwear and hosiery that is in great demand in the United States and Europe. This cotton has rather a long fiber, and is used sometimes by European manufacturers in the adulteration of certain grades of silk fabrics.



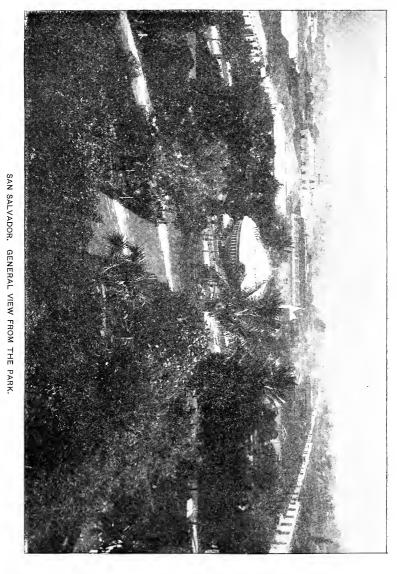
FOREIGN TRADE, FIRST QUARTER OF 1908.

Official statistics of Salvador show that the total exports for the first quarter of 1908 were valued at \$2,940,535, of which coffee amounted to \$2,392,530 and silver bars \$320,509. Sugar and anil (indigo) were the only other exports of any consequence, amounting to \$75,857 and \$49,084, respectively.

The exports to the principal countries were as follows during the quarter: United States, \$604,285; France, \$774,795; Germany, \$747,479; United Kingdom, \$219,439; Italy, \$205,573; Spain, \$139,324; Austria-Hungary, \$133,276; all other countries, \$116,364. Coffee constituted nearly the whole exports to these countries, with the exception of the United States, for which destination the exports of silver bars amounted to \$330,509 and coffee to \$259,427.

PROPOSED RAILWAY FROM SANTA ANA TO AHUACHAPAN.

The "Diario Oficial" of Salvador publishes in its issue of August 10, 1908, a contract which the Government of that Republic proposes to make with the Salvador Railway Company (Limited), of London, for the extension of the railway from Santa Ana to Ahuachapan, via Chalchuapa and Atiquizaya. According to the terms of the proposed contract, on the completion of the railway and the opening of the same to traffic, one train a day at least must be run in each direction between the terminal stations. The Government is to grant to the construction company a right of way of at least 20 meters wide, and



San Salvador is the eapital of the Republic, situated 2.188 feet above sea level, and has a population of 59,500 inhabitants. It is one of the oldest of New World cities, having been founded in 1528. It is substantially built, and contains many fine buildings, among them the new Cathedral, Municipal Palace, University, Palace of Justice, and Artillery Barracks.

such other grounds as may be needed for the stations, switches, etc., free of charge to the company, except in case of the lands of private persons, in which instance the company must reimburse the Government at the rate of 1,200 pesos (\$480) per kilometer (0.621 mile). Construction is to commence early in 1909, and the line is to be completed and opened to traffic within two years from that date. The Government is to pay to the company an annual subvention of £2,085 for a period of thirty-five years, or during the life of the proposed contract.

COMMERCIAL TREATY WITH GERMANY.

By the terms of the commercial treaty between the Republic of Salvador and Germany, concluded in April, 1908, the contracting parties agree to accord to one another most-favored-nation treatment in commercial, maritime, and consular matters. It is, however, stipulated that any right, favor, or immunity which Salvador has already granted or may hereafter grant to any or all of the other Central American Republics may not be claimed by Germany unless such right, favor, or immunity be extended to some country other than the Central American Republics.

The treaty becomes effective upon the exchange of ratifications, and is to remain in force for ten years, and unless denounced one year before the expiration of that period it shall continue in force for another year, renewable by yearly periods until one year after denouncement.



INSURANCE REGULATIONS IN THE REPUBLIC.

In July, 1908, the time limit accorded by the Uruguayan Government to insurance companies operating in the Republic for compliance with the provisions of the law of January 18, 1908, in regard to the deposit of guaranties and the payment of a tax on the premium income expired.

The law in reference, as previously recorded in the Bulletin, requires foreign companies to put up a guaranty of \$30,000 gold if fire insurance is covered and \$20,000 if marine; while if both branches are served, the deposit is as before noted for fire and \$5,000 for marine. The premium tax is 5 per cent for fire and 4 per cent for marine.

National companies pay half the above guaranties and pay a tax of 2 per cent on both classes of insurance. It is provided that foreign companies may qualify as national companies if they invest \$150,000 gold in real estate or bonds, or deposit this amount in bank, not to be touched by the company holding it. Several foreign companies have complied with the latter condition, and are operating as national organizations.



CENTRAL RAILWAY STATION, MONTEVIDEO, URUGUAY.

The railway systems of Uruguay have a length of about 1,500 miles, and represent, including the lines under construction, a capital of \$98,000,000. Of this sum \$28,000,000 carries a Government guarantee of 3½ per cent interest. Uruguayan railroads are exempt from trade and land taxes, as well as from import duties on construction material.

MUNICIPAL STATISTICS OF MONTEVIDEO.

The population of Montevideo on June 30, 1908, is given as 312,946, as against 308,057 on the same date of the preceding year. Tramway returns for the first six months of the year show 5,775,369 passengers carried on the horse-car lines and 17,673,326 on the electric lines, the figures for the corresponding period of 1907 being 7,482,270 and 12,076,695, respectively.

The electric light company supplying the city shows profits from the operations for the year ending June 30 of \$146,786.80 gold, an advance over the previous year of \$24,000. Private lighting increased by 12,434 incandescent lamps and 59 arc lamps.

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CUSTOMS REVENUES, JULY, 1908.

Customs receipts of the Uruguayan Republic for July, 1908, and for the seven months of the year ending with that month aggregated \$1,107,113.91 and \$8,040,522, respectively. For the seven months' period an increase of \$126,337 is noted, as compared with the same portion of the preceding year, whereas in comparison with the month of July, 1907, there was the slight decrease of \$32,000.

Revenues from imports for the month are placed at \$916,334.21 and from exports at \$123,025.43, while the Department estimate is \$67,754.27.

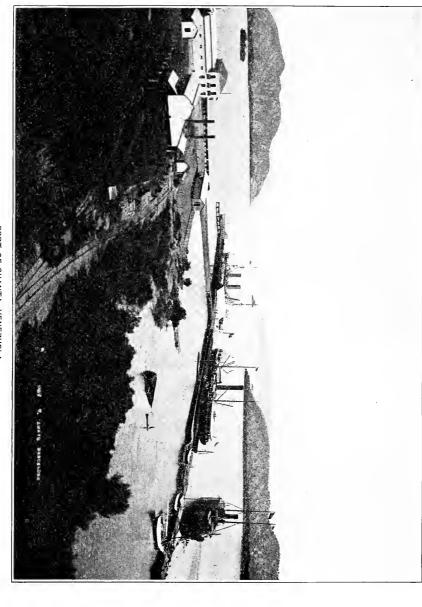
NATURALIZATION CONVENTION WITH THE UNITED STATES.

The United States Minister to Uruguay has reported to the State Department that he has signed with the Uruguayan Government a naturalization convention between the two countries. The convention now goes to the United States for ratification.



STATE BOUNTY FOR THE CULTIVATION OF RICE.

For the purpose of stimulating the cultivation of rice the governor of the State of Zulia, Venezuela, has been authorized by the State Legislature to offer prizes or bounties aggregating a total of 4,000 bolivars (\$800) to the agriculturists of that State who succeed in producing certain quantities and qualities of this useful cereal. The first two prizes are for 1,000 bolivars (\$200) each, to be awarded to the planters who produce, in the harvest of 1909 the largest quantity of rice of a good quality, the quantity to be at least 150 fanegas (240 bushels) of this cereal. Another prize of 600 bolivars (\$120) is offered to the agriculturist who continues to raise the largest quantity of a good quality of rice, provided the production does not fall below 100 fanegas (160 bushels). Smaller prizes are offered on similar conditions to other planters who produce smaller quantities of a good quality of rice. The prizes are to be awarded on October 28, 1909, by a board appointed by the Governor for that purpose.



PORT OF GUANTA, VENEZUELA.

This is a land-locked harbor on the Carliboan Sea, the city being connected by railread with the near-by port of Barcelona. Owing to its natural advantages, channa has succeeded to a large part of the trade formerly tributary to Barcelona, and is one of the principal centers in Venezuela for the exportation of live stock.

COALING OF VESSELS AT THE PORT OF LA VELA.

Under date of August 17, 1908, the Government of Venezuela decreed that foreign vessels desiring to coal at the port of La Vela are exempt from the payment of the port dues fixed by the Code of



PACK MULES IN VENEZUELA.

Inland traffic is largely carried on by means of small but hardy donkeys, which carry immense loads of merchandise strapped to their backs. The markets of the cities are daily supplied with vegetables and other produce brought in from the country by these patient little animals.

Finance on the entrance and clearance of vessels, and that such vessels will be provided with all the assistance possible in the operation of taking on coal. The price of coal at La Vela is fixed at \$5 a ton.



CAVALRYMAN, ARGENTINE REPUBLIC.

The cavalry branch of Argentina's standing army consists of eleven regiments. The men are expert horsemen, and this branch of the national service appeals to them. The mounts are of small stature, strong, hardy, and high spirited, but very tractable.



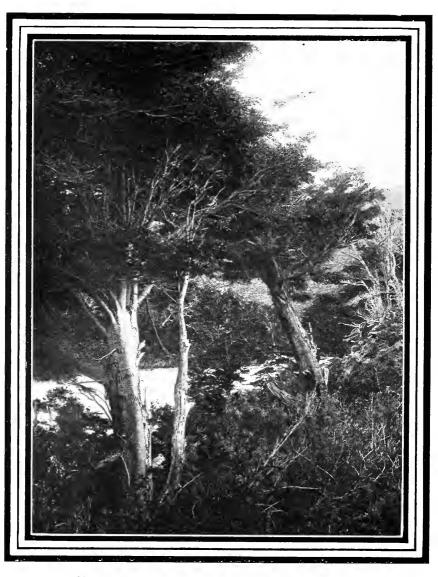
LEZAMA PARK, BUENOS AIRES.

This is one of the popular parks of the city. Its location on a beautiful hill is picturesque, from which can be seen the surrounding suburbs of La Boca and Barracas, and a long stretch of La Plata River. The Russian church is shown in the background of this view.

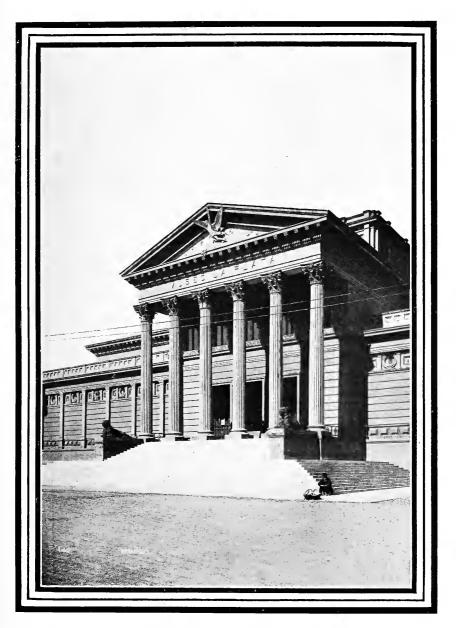


POST-OFFICE AND TELEGRAPH BUILDING, LIMA, PERU.

Notwithstanding the great physical obstacles encountered, Peru's postal and telegraph services have reached a high state of efficiency. The former has been more than self-sustaining for several years, and there are 550 post-offices in the Republic. The telegraph system has a mileage of 3,200, all but 20 per cent of which is operated by the Government.



SCENE, ISLAND OF TIERRA DEL FUEGO, ARGENTINE REPUBLIC. Though in 55° south latitude, a portion of the island abounds in thick forests. In the more open country the sheep industry prospers.



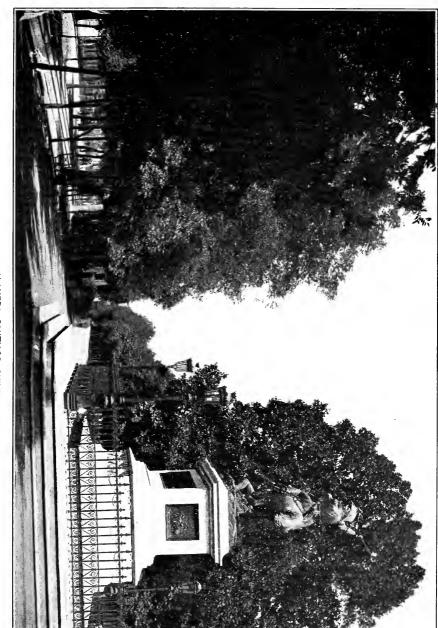
MUSEUM, LA PLATA, ARGENTINE REPUBLIC.

This institution was founded in 1884 by its present Director, Francisco P. Moreno, and is situated in the suburbs of La Plata, in what is known as the La Plata Forest. It contains the largest collection of American fossils in existence.



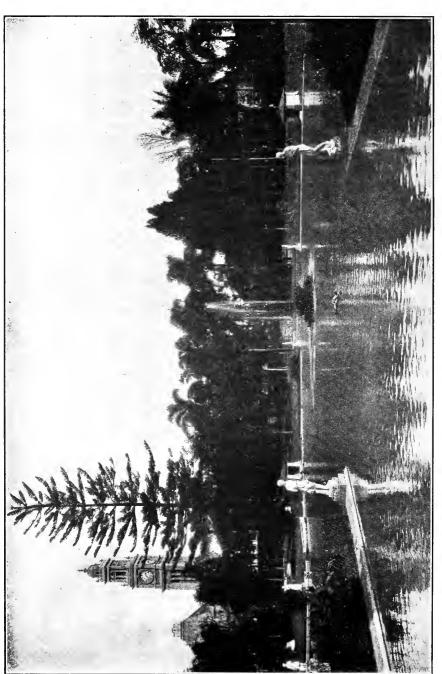
STATUE OF GENERAL PAEZ, CARACAS, VENEZUELA.

José Antonio Paez, a famous general and President of the Republic, was born June 13, 1790, and died in New York City May 7, 1873, while on his way home from a tour of Europe and America. As a lieutenant in command of cavalry under General Bolivar he distinguished himself by capturing a fleet of Spanish transport vessels with a force of 50 troopers, the only recorded instauce of the capture of a fleet by cavalry.



ALAMEDA, SANTIAGO, CHILE.

Formerly this beautiful avenue was lined with two rows of massive poplars. Recent improvements caused the destruction of many of these giunts, but other trees were planted in their stead. The avenue extends some distance along the foothills of the Andes, making a picturesque driveway and promenade.



PUBLIC PARK, SÃO PAULO, BRAZIL.

São Paulo's park system is favorably compared with those of the largest European and American cities, and is the outcome of the past twelve years of progress and improvement. Of more than \$200,000,000 in gold expended in public enterprises, a large portion was devoted to laying out and beautifying the city with numerous plazas, parks, and avenues.

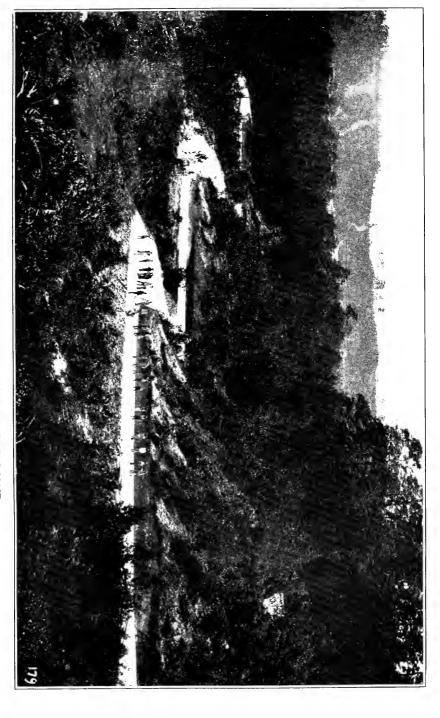


TEMPLE OF MINERVA, AMATITLAN, GUATEMALA.

On October 28, 1899, President Manuel Estrada published a decree setting apart the last Sunday in October of each year as a national holiday to celebrate the benefits of public instruction. The exercises and festivities are participated in by teachers, pupils, and the general public, and are held in temples erected and dedicated to this purpose.

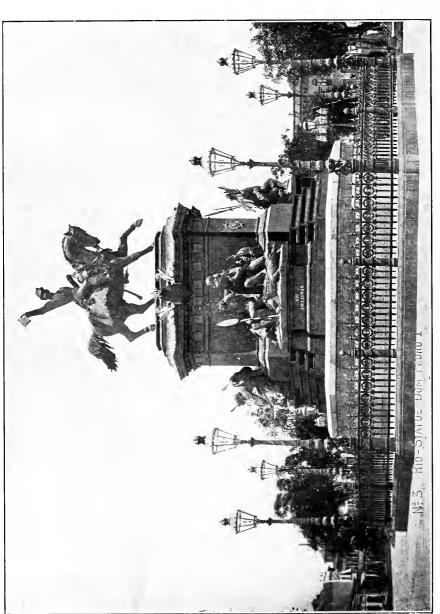


Few of the works of nature are calculated to produce impressions of higher sublimity than the aspect of this mountain, rising 21,420 feet above sea level, with its glorious canopy of snow and ice glittering far above the clouds. MOUNT CHIMBORAZO, ECUADOR.



GOVERNMENT ROAD FROM TEGUCIGALPA, HONDURAS, TO THE COAST.

Tegucigalpa is one of the few inland capitals of the world which is still without complete railway communication with its ports. The Government, however, has constructed a well-built road to the Pacific coast through the lofty mountains which surround the city.



STATUE OF DOM PEDRO I, RIO DE JANEIRO, BRAZIL.

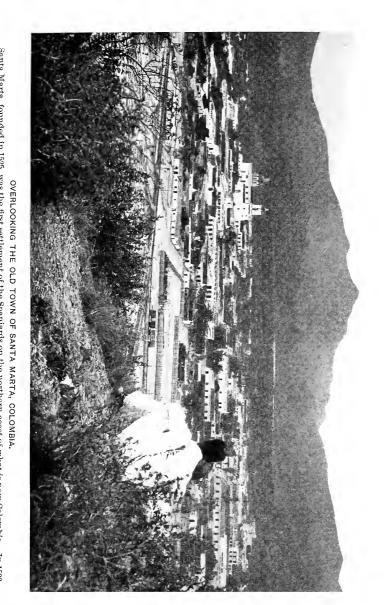
Dom Pedro, the son of King John, of Portugal, exponsed the cause of Brazil in the struggle for independence, and became its first Emperor under the Constitution. In 1831 he abdicated the throne in favor of his son, Dom Pedro II, who reigned until the establishment of a Republic in 1889.

SUBTROPICAL GARDENS OF LOTA, CHILE.

This park was the gift of Don Luis Consiño, who, in 1852, purchased the property which has developed into the wonderfully rich coal mines of Lota. The Cousiño family has since spent large sums in beautifying and upbuilding the community.

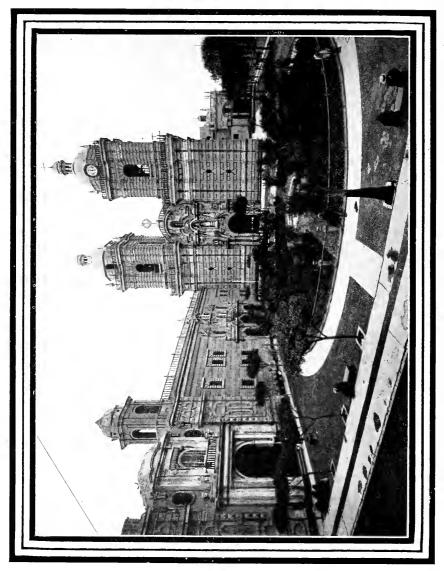


The territory in Venezuela is watered by 1,059 rivers and streams, 436 of which are affluents of the Orinoeo River. The balance discharge into the northern lakes and gulfs,



Santa Marta, founded in 1525, was the first settlement of the Spaniards on the northern coast of what is now Colombia. In 1533 an expedition from this settlement founded the near-by city of Cartagena, and three years later sent forth the expedition which discovered Bogota, then known as Mequeta. Simon Boltvar died in 1830 on the San Pedro estate, about 3 miles from the city. At the present time Santa Marta is a flourishing trade center for the export of bananas and other fruits, being the terminal of a railroad and a shipping port for the steamers of the United Fruit Company.

(Copyright—Underwood & Underwood.)



CHURCH OF SAN FRANCISCO, LIMA, PERU.

More than \$2,000,000 were spent in the construction of this church and convent. The walls are decorated with multicolored tilles, and the interior carvings are works of great merit.

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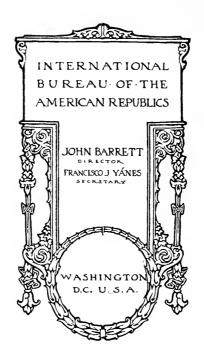
NOVEMBER

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ENVOYS EXTRAORDINARY AND MINISTERS PLENIPOTENTIARY. Argentine Republic ... Señor Don Epifanio Portela, 2108 Sixteenth street, Washington, D. C.

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CHARGÉS D'AFFAIRES, AD INTERIM. ... Señor Don José F. Godoy,

Office of Embassy, 1415 I street, Washington, D. C.

[Paraguay and Venezuela have at present no representatives on the Governing Board.]

a Absent.



AMBASSADORS EXTRAORDINARY AND PLENIPOTENTIARY.

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MINISTER RESIDENT AND CONSUL-GENERAL.

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VOL. XXVII.

NOVEMBER, 1908.

No. 5.

MONG the methods of awakening interest throughout the United States in the progress, resources, and possible development of the Latin-American Republics there is none that seems to bring better results than the addresses delivered by the Director and members of the staff of the International Bureau before chambers of commerce, universities, and other organizations devoted to the consideration of public questions. It is impossible for the Director to accept more than a small proportion of the invitations that come to him from all parts of the United States, but he appreciates the value of the opportunity of presenting the subject before the class of men and women who gather on these occasions. Thousands of persons who are too busy to read descriptive books, pamphlets, and statistical data, or other written material, will gladly listen to a discussion of reasonable length covering important and salient facts of Latin America.

The average business man is so occupied with his daily responsibilities that he will gain more information in less than an hour from a meeting of a chamber of commerce specially called to consider the question of developing closer relations with Latin America than he will from a year of cursory attempts at reading. Excellent evidence of the practical usefulness of the talks made by the Director and his assistants is found in the large number of inquiries that always come to the Bureau following their presence at meetings of this kind. About November 1 the Director returned from an extended visit to the Far West and Pacific coast of the United States, where he delivered, by special invitation, addresses on various phases of Latin-American commercial, economic, and social development before the National Irrigation Congress at Albuquerque, New Mexico; the Trans-Mississippi Commercial Congress at San Francisco, California; the Chambers of Commerce of Los Angeles, Sacramento, and Stockton, California; the commercial clubs of Portland and Medford, Oregon; the Chambers of Commerce of Tacoma, Seattle,

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and Spokane, Washington; the University of California, Berkeley, California; the University of Oregon, Eugene, Oregon; the University of Washington, Seattle, Washington; the University of Minnesota, Minneapolis, Minnesota; Throop Institute, Pasadena, California; and the Publicity Club, of Minneapolis, Minnesota. He was also the guest of honor at a number of functions given by various business, social, and literary clubs. A careful and conservative estimate of the number of thinking and representative men and women whom the Director reached in this way, based on the statements of the local newspapers and of the men in charge of the gatherings, would exceed 15,000, a great majority of whom could not have been reached in any other way in such effective manner or in less than two or three years of effort through printed matter. Addresses of a character suited to the audiences that gather under these conditions can not, therefore, fail to accomplish much toward bringing about a new era of mutual appreciation and closer relationship between the American Republics-a most important phase of the work of the International Bureau of the American Republics.

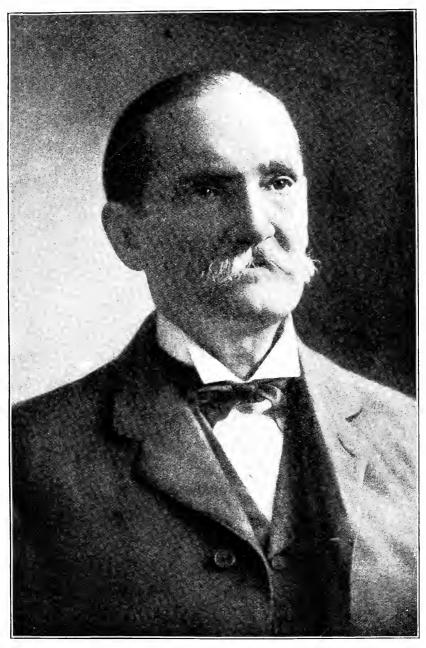
DEATH OF SEÑOR ESTRADA PALMA.

Señor Don Tomás Estrada Palma, first President of the Cuban Republic, died at Santiago, Cuba, November 4, 1908. Señor Estrada Palma devoted his entire life to the cause of his country's freedom, bravely enduring many hardships with a stout heart, as becomes a true patriot. His countrymen knew and appreciated Señor Palma's devotion, and as a fitting recognition made him their first President.

The International Bureau of the American Republics mourns, with the Republic of Cuba, this great loss.

FLAGS AND HOLIDAYS OF THE AMERICAN REPUBLICS.

Commencing with the October issue of the Bulletin, there are being published reproductions of the flags and coats of arms of the different American nations, together with some facts descriptive of these emblems and of the origin of the national holidays. There is so much of historical interest in connection with the escutcheons and holidays of the American nations that they should be better known among all persons who are interested in the progress and evolution of nations. It was a matter of regret that at the corner-stone laying of the new building of the International Bureau of the American Republics so few people among the thousands present were familiar with the flags and coats of arms of the twenty-one nations forming the International Union. Although everybody was profoundly impressed with the raising of the flags and with the playing of the respective national anthems, no one could escape the



TOMAS ESTRADA PALMA,
First President of the Republic of Cuba. Died November 4, 1908.

thought that the world at large was too ignorant of the various American national emblems. The average citizen of the United States is proud of the significance of the Fourth of July and of the national escutcheon and the Stars and Stripes, but he does not stop to think that the corresponding emblems of Latin-American nations carry an equal significance in their history.

TRANSFER OF MINISTER UGARTE.

The Monthly Bulletin regrets to announce the departure to his country of Dr. Angel Ugarte, who, during his stay in Washington as Minister from Honduras, always showed great interest in the International Bureau, and in the plans and labors of the Governing Board, of which he was an honored member. Doctor Ugarte carries with him the best wishes of this Bureau and its official organ for his personal welfare.

DOCTOR L. BAETA-NEVES DESCRIBES BRAZIL.

Among the representative foreigners who attended the National Irrigation Congress at Albuquerque, New Mexico, was Dr. L. Baeta-Neves. Doctor Neves read one of the most interesting papers presented to the Congress. The preliminary part of it was devoted to a general discussion of his country, and it was with pleasure that the Director gave instructions that it should be reproduced in this issue of the Bulletin. Brazil is growing so rapidly and has such vast potentialities that a brief description of it by one of its representative citizens is timely and interesting.

A NEW MINISTER FROM HONDURAS.

The International Bureau of the American Republics takes pleasure in welcoming, as a member of its Governing Board, Dr. Luis Lazo Arriaga, the new Minister of Honduras to the United States. Minister Lazo Arriaga was formally received by the President on October 21, the addresses made on this occasion appearing elsewhere in this issue. Dr. Lazo Arriaga is a man of scholarly attainments and a physician of note, who has rendered valuable services to his country and to the neighboring Republic of Guatemala, where he perfected his education. His public career has been eminently successful, and much benefit is expected from his cooperation in the work of the Governing Board in fostering the policies of the International Union.

Dr. Luis Lazo Arriaga was born in Danlí, Department of Paraíso, Honduras, in 1859. He finished his education, as above stated, in Guatemala, where he graduated with honors from the School of Medicine, which is the highest medical institution in the Republic. Later on he went to Paris to further pursue the study of his profession. While in



 ${\tt DR.\ LUIS\ LAZO\ ARRIAGA,}$ Envoy Extraordinary and Minister Plenipotentiary of Honduras to the United States.

Guatemala Dr. Lazo Arriaga was a member of the governing board of the Faculty of Medicine, Professor of Medicine in the school from which he graduated, and chairman of the Board of Health. He has also held other public offices of importance. After a successful medical career in Guatemala, Dr. Lazo Arriaga served his own country in various capacities, notably as Delegate of Honduras to the Central American Exposition held in Guatemala in 1896, Consul-General in New York, and Delegate to Mexico on the occasion of the Third International Sanitary Conference, which was held in Mexico City in the month of December, 1907.

CONTINUED EVIDENCES OF ARGENTINE DEVELOPMENT.

A noteworthy feature of Argentine prosperity is found in the fact that according to the latest commercial statistics of the country-first half of 1908—the excess of exports over imports is recorded as nearly \$92,000,000. This is the more remarkable, inasmuch as import valuations for the period were \$1,000,000 greater than those of the corresponding period of the preceding year. It is also to be noted that the Republic is solidifying its trade relations with countries hitherto occupying unimportant positions on its import list; thus from Italy, Spain, Austria-Hungary, France, the Netherlands, Paraguay, Chile, and Africa increased receipts of merchandise are reported, while from the three leading countries, Great Britain, Germany, and the United States, decreased valuations are quoted. In spite of the delay in opening the ports of Great Britain to Argentine live stock, that country stands at the head as a receiver of the Republic's exports, increasing its purchases by over \$22,000,000 in the first six months of 1908. The annual expositions of live stock held in the vicinity of the capital at Palermo show constant improvement in breeding and selection of stock, and, according to the recent census returns from this industry, it is shown that over half a billion dollars are represented by the cattle ranges of seven provinces. Furthermore, the marvelous development of cereal crops has wrought its corresponding change in industrial life, as a quarter of a century ago all the flour used in the Republic was imported, while at the present time the annual production of that article is over 5,500,000 tons.

COSTA RICA'S SPECIAL ENVOY.

Dr. Luis Anderson, who on October 15, 1908, was received by the President of the United States, in the capacity of Envoy Extraordinary and Minister Plenipotentiary of Costa Rica on special mission, is not a stranger in the diplomatic circle of Washington, nor in Latin-American affairs. His name is closely identified with the development of public education in Costa Rica and the foreign policy of that Republic, he hav-



 ${\tt SE\~NOR~DON~LUIS~ANDERSON,}$ Envoy Extraordinary and Minister Plenipotentiary of Costa Rica on Special Mission.

ing held the portfolio of Minister of Foreign Affairs. To his efforts are due much of the enthusiasm and success attending the San José Peace Conference and the Central American Peace Conference which met in Washington last year, of which he was elected Chairman.

In welcoming Doctor Anderson to Washington once more, the Bulletin desires to give public recognition of his distinguished service in favor of the Pan-American idea.

THE MUNICIPALITIES OF LATIN AMERICA.

The study of cities has been a matter of profound historical and scientific research. Hitherto, however, almost all the interest which a city aroused was centered in its esthetic side. The historical incidents of its growth, the part it played in the development of the neighborhood or the nation, the social characteristics of the inhabitants attracted the student far more than did the organic structure of the municipality. LANCIANI'S book on Ancient Rome in the Light of Recent Discovery was of wonderful incentive to investigate community life of a city with respect to the functions of the municipality as such. Within only recent years, therefore, has the study of the working details of our largest cities as municipalities become one of the leading problems in economics and politics. Attention has not been confined to our own cities, but we have gone abroad to inquire into the modern municipal life of European capitals. When we speak of London or Berlin, Paris or Freiburg, we are apt to think only of the artistic and dramatic forces at work; the picturesqueness of the city springs at once into our mind, and we forget that street pavement, water supply, urban transportation, and similar necessities of the day are as contemporary with them as with us, although investigation has shown that the public services in Europe receive great and careful attention from both practical men and scientists.

These questions are of equal moment in the cities of Latin America. Wherever people are confined within one area as a coordinate whole definite means must be adopted to regulate life and to make it attractive. Certain features of municipal organization have been remarkably well considered by these cities, but the fact has not received the recognition it deserves. Judging from many of the innumerable letters reaching the International Bureau of the American Republics, knowledge of the government and municipal routine of these cities in Latin America is not so well spread or accurate as it should be. The general characteristics of any city can be found recorded in the cyclopedias, but their physical conditions have escaped the notice of writers and readers alike.

It has been thought, therefore, to be within the province of the BULLE-TIN to devote from time to time some space to a presentation of the features of each capital city of Latin America as they are to-day. Only where it is part of the organic whole will the artistic or intellectual side



Minister of Foreign Affairs of the Republic of Guatemala, and Special Envoy to the United States.

of any city be emphasized, but the details of the municipality, its working forces, its efforts toward conserving social and individual life, will receive direct attention. All statements made will, so far as possible, be taken from official publications, nor will any opinion or comparison be permitted, unless such seems warranted for illustration or to correct a false idea hitherto current among travelers or those who have not access to such literature as that possessed by the Library of the Bureau. Municipal organization is to be the chief point treated. It is to be hoped that these articles may meet the approval of those by whom the Bulletin is read, and criticisms and corrections will be welcomed from any source.

A NEW ENVOY FROM GUATEMALA.

Dr. Don Juan Barrios Morales, Minister of Foreign Affairs of Guatemala, has arrived in Washington as the Special Envoy of his Government, and was received as such by President Roosevelt on November 2, 1908. Señor Barrios Morales was born in 1866 in the city of Alta Verapaz, and in 1889 graduated with honor as a lawyer from the School of Lawyers and Notaries of Guatemala. His public career has been a remarkable one, he having for many years held offices of trust, such as Judge of the Court, Provincial Governor, Commander of Several Departments, President of the highest courts of Quezaltenango and Coban. Besides these offices in his own country, he has on several occasions represented Guatemala near the several Central American Governments, and was one of the Guatemalan Commissioners to the Marblehead Conference.

Señor Barríos has also been a member of several legislatures, and besides the portfolio of Foreign Affairs he also fills the office of Vice-President of the Republic. His labors have not been confined to the political sphere, as much of his time is devoted to filling the Chair of Law of the Law Faculty of Guatemala and Quezaltenango, and he is also a member of several learned societies and scientific associations in Europe and America.

The International Bureau of the American Republics is pleased to extend to Señor Barrios Morales a cordial welcome and best wishes for his welfare.

MINING DEVELOPMENT OF COLOMBIA AND PERU.

The International Bureau is constantly receiving inquiries from all parts of the world in regard to gold mining in Colombia and Peru. For this reason there is published in this issue of the BULLETIN a careful discussion of this subject, prepared by one of the staff experts. North Americans interested in mining are just beginning to realize, not only the vast area and varied resources of these countries, but their com-

parative nearness and accessibility to the United States. The shortest distance from the most northern point of Colombia to the most southern point of the United States, on the Gulf of Mexico, is approximately the same as the distance from New York to Chicago. Callao, the principal port of Peru, is only a few days sailing south from Panama, and the latter place can now be reached in six days from New York. As soon as the Panama Canal is opened, the whole west coast of Colombia and the entire coast line of Peru will seem close neighbors to the Atlantic and Gulf coast lines of the United States. In these two countries there will probably be an investment in mining during the next decade which will rival the sums that have been put into Colorado and Nevada in the United States. A great many people who have been frightened heretofore by the tropical situation of Colombia and Peru now realize that large sections of these countries are at such an elevation that they have a temperate as well as a hot climate, and therefore can be successfully exploited by men who have always lived in the north or south Temperate Zone.

LATIN AMERICA AT THE INTERNATIONAL FISHERIES CONGRESS.

The International Fisheries Congress which met in the city of Washington from September 22 to 26, inclusive, was a most important gathering, from which great results are expected. Mexico, Guatemala, and Ecuador were among the countries represented. Minister José F. Godov, the Mexican Delegate, was selected as one of the Vice-Presidents of the Congress, as an acknowledgment of the presence of Latin America at this important Congress. Minister Godov made an eloquent address at the session of September 25, showing the interest Mexico has taken in the Congress and his own appreciation of the work performed and the courtesies extended.

The representative of Ecuador, Mr. ESTEBAN FELIPE CARBO, delivered, during the course of the Congress, an address on the Galapagos Islands, showing its wealth in fisheries. Mr. CARBO's address appears elsewhere in this number.

ECONOMIC STATUS OF BOLIVIA.

Through the courtesy of the Minister from Bolivia in the United States, Señor Don Ignacio Calderón, the International Bureau of the American Republics has received a number of valuable official documents treating of the present status of his country from an economic and political viewpoint. The message of President Montes, from which extended extract is printed in this issue of the Bulletin demonstrates the cordial relations existing between Bolivia and the nations of the world and outlines the various measures under consideration for the greater strengthening of the bonds of friendship. The commercial and

industrial standing of the Republic is detailed in the reports made to the Bolivian Congress by the Ministries of Commerce and Industry, of Government and Fomento, and of Colonization and Agriculture, respectively. As was inevitable, commercial conditions suffered somewhat during 1907 from the prevailing financial crisis, and values of foreign trade declined by about \$10,000,000 as compared with the preceding year, the total, however, being greater than that reported for any year between 1900 and 1905. Exports exceeded imports by at least 50 per cent. Desirable immigration is being encouraged and the recent treaty arrangements with Chile and Peru afford adequate facilities for a maritime outlet for Bolivian products.

BRAZILIAN DEVELOPMENT.

Official reports from Brazil indicate great activity in railway construction, the opening up of new routes, improvements on established lines, the organization of new companies, and the development of better communication facilities with Uruguay, both by land and water. The new dock system of Rio de Janeiro, which is to be operated by a private corporation under government auspices and for which the terms of leasing and regulations therefor are under consideration, is said to be the largest of its kind in South America. Immigration statistics of the port of the capital show an increase of over 6,000 arrivals during the first half of 1908 as compared with the same period of 1907. The great success of the National Exposition held during the summer of 1908 has led to a discussion of the advisability of celebrating the centennial of the country's independence, in 1922, by an International Exhibition in which all lands shall be invited to participate.

WILLIAM WHEELWRIGHT-A PIONEER IN LATIN AMERICA.

The people of the United States, while quite familiar with the names of the men who have done great work in opening up their West and in forwarding the development of the land, know little of those who have gone forth from this country into foreign lands and who have there, either single handed or in cooperation with representative citizens of these nations, inaugurated a new era of material, industrial, and agricultural progress. Among the names of men who stand high for actual achievement in this respect in Latin America is WILLIAM WHEELWRIGHT. In this issue of the BULLETIN there is a brief sketch of his life and activities that will interest all those imbued with admiration for men who have really done something for the good of the world and who have fully appreciated the resources and possibilities of Latin America.

CHILEAN CUSTOMS TARIFF AND REVENUES IN 1908.

The customs revenues of Chile for the first six months of 1908 show important changes in the economic life of the country growing out of the tariff rates effective from January 1, 1908, and further modified by the decree of March 21, 1908. Total receipts aggregated more than \$15,000,000, exceeding those of the first six months of 1907 by over \$4,000,000. This excess was entirely on the export side, based upon shipments of nitrate and iodine, while the decline noted on the side of imports is attributable not only to a falling off in the introduction of railway and building materials which characterized last year's trade lists, but also to the lower rates of duty established for many articles of domestic use, notably certain textiles, shoes, and sugar. Total export valuations for the first half of 1908 are given as \$52,974,184 and import values are fixed at \$50,799,556, a total of \$103,773,740.

COLOMBIA'S NATIONAL ASSEMBLY IN 1908.

The National Assembly of the Colombian Government signalized its sessions of 1908 by many legislative enactments contributing to the general welfare of the Republic. Of notable importance was the ratification of the Sanitary Convention of Washington, and the establishment of an adequate board of hygiene charged with the health of ports and provinces.

COSTA RICA'S INTEROCEANIC RAILWAY.

With the completion of the Pacific Railway between San José and Puntarenas, the remaining 12 miles of which have been contracted for and whose completion is scheduled for the latter part of 1909, Costa Rica.will have an interoceanic line of transit 170 miles in length. This road will greatly facilitate the delivery of native products at the seaboard, and as it runs through a beautiful and salubrious country will form an attractive travel route for tourists.

CUBA'S POPULATION STATISTICS AND FOREIGN REGISTRATION.

The national election to be held in the Republic of Cuba in November, 1908, renders of peculiar interest the official record of the country's population, which numbers 2,048,980 inhabitants. On the registration lists number of foreigners entitled to cast their ballot for President is given as 6,954, nearly two-thirds of whom are residents of Habana.

ECUADOR'S LINK IN THE INTERCONTINENTAL RAILWAY.

The railway from Huigra to Cuenca, the survey of which has been made in accordance with a contract with the Ecuadorian Government, not only traverses a coal field of enormous value, but is an important link in the Intercontinental Railway, opening up the vast plateau of southern Ecuador and connecting Cuenca (the third city of the Republic) with Quito and Guayaquil. In the three cities named, the establishment of boards of agriculture has been recommended to Congress by the Minister of Agriculture of the Republic, their future value as centers of industrial life being logically indicated by recent national developments.

SANITATION MEASURES AND INDUSTRIAL DEVELOPMENT IN GUATEMALA.

No more important work has been undertaken in Guatemala of late than the effective sanitation of Puerto Barrios, the Caribbean terminus of the country's interoceanic railway. Though the work is to be done by the railway company, reimbursement is to be made by the Government, which foresees the destined importance of this maritime port. The exploitation of the timber reserves of the Republic is also occupying official attention, valuable concessions having been granted recently for the right to cut cabinet and dyewoods, to extract chicle and other gums, and to export the same. For the purpose of attracting immigration as a means of industrial development, a committee having the work in charge has been organized under the direction of the Department of Fomento (Promotion).

THE MINING INDUSTRY OF MEXICO AND ITS REGULATION.

In the new mining law projected by the Mexican Government, article 144 contained the following provision, which has been omitted from the revised law as submitted for final action:

Foreign corporate bodies are incapable of denouncing and acquiring henceforth, by any process, either mining properties or liens thereon within the territory of the Mexican Republic.

As a consequence of this decision, it is anticipated that the steady development of Mexican mines with both foreign and local capital will be resumed with its former activity. The President of the Chamber of Mines, Señor Don José Luis Requena, asserts that reputable foreigners and locators of properties will find no inconvenience in the law as it stands to deter them from continuing to make denouncements.

NICARAGUA'S COMMERCIAL STATISTICS.

Belated data concerning Nicaraguan trade values cover the year 1906 as the most recent full statistics, showing a total valuation of \$7,639,877, the exports exceeding the imports by \$822,218 and showing a gain of nearly \$1,000,000 for the year. Coffee, the leading article shipped abroad, figures for something over \$1,250,000, practically the same as in

the preceding year, while bananas doubled in value. Gold shipments increased, but rubber, hides, and cattle show small decreases. Sugar production, with its accompanying by-products of molasses, aguardiente, and alcohol, shows a total valuation in 1907 of \$1,122,400, the plantations being estimated as worth \$1,650,000.

PROGRESS ON THE NEW PAN-AMERICAN BUILDING.

The progress that is being made in the construction of the new building for the International Bureau is gratifying. An article in this issue, prepared by the superintendent of construction, and containing a number of interesting illustrations, will show the state of development as it was about the middle of October. Particular attention is called to the bird's-eye view from the top of the Washington Monument. This shows the ideal location of the new building on a plot of ground covering 5 acres at the corner of Potomac Park and Seventeenth street. It is doubftul if there is a better site for a public building in Washington. If construction goes forward as rapidly as called for by the contract, the building should be ready for occupancy early in the fall of 1909.



Dictionary of Spanish and Spanish-American Mining, Metallurgical and Allied Terms. By Edward Halse, A. R. S. M. London, Charles Griffin & Company (Ltd.). Philadelphia, J. B. Lippincott

Company. 1908. 12mo. 380 pages.

The book is in reality much more comprehensive than its title indicates. Not only does it give an immense vocabulary of technical mining engineering terms used in Mexico, Colombia, other parts of Latin America, and Spain, but it contains many words in common use in or around mines, however slight may be their connection with the technical side of the language. French and Portuguese, and even German equivalents, are introduced wherever possible, and words are often traced to their original meaning. As explained in the title, this dictionary gives merely the Spanish, the English translation following immediately, and for the purpose it must be eagerly consulted by those who enter Latin America with the serious intention of prospering through the mineral riches of those countries. The author will find, however, that he must supplement his labor by editing an English-Spanish section, which surely will be in as great demand as the present volume ought to be.

"Fighting under the Southern Cross" and "In a Brazilian Jungle," written by Claude H. Wetmore, published by W. A. Wilde Company, Boston and Chicago, are the names of two recent additions to the fiction attempting to illustrate some phases of life in South America. The former deals with the old question of the war between Chile and Peru; it recites the supposed adventure of youthful sons of alien parentage who resided for a time in Peru. The other deals with equally imaginative incidents in different parts of Brazil. They are both boys' books, and arouse interest only to the extent that they are exciting. It can not be said that they convey an accurate picture of the countries mentioned, or that boys will increase their knowledge of South America by reading them. They bear impress of the style of the "Bola," which is a wild, fanciful story that started no one knows where, and gained in exaggeration as it passed from lip to lip.

The Land of the Incas. By W. H. DAVENPORT ADAMS. Boston, Dana Estes and Company. The author has attempted to rewrite a life of Pizarro and to tell the conquest of Peru, not because he has

discovered or has fresh access to hitherto unused manuscripts, but because he thinks that Pizarro has been unjustly handled by previous historians, and that the point of view should be taken that Pizarro was merely a product of his times and in the main was neither so cruel nor so crafty as tradition pictures him. The point of view is therefore the only novelty in the book. The story is well enough told, for the style is fluent, the facts thoroughly authenticated, and the narrative after all so little at variance from those of Prescott and ROBERTSON that the reader is not quite sure whose pen he is following. Where the author follows recognized authorities, he makes no recognizable mistakes, but where he resorts to what might be called newspaper authority or yields to his own imagination, he falls into grievous error. His opening paragraph pretends to locate Peru geographically, and says that its western boundary is the State (sic) of Ecuador, and its eastern the vast empire (sic) of Brazil. Such crudities and misstatements are inexcusable. Farther on he indulges an unbridled fancy in describing the Montaña region of Peru, about which he evidently knows nothing and shows it. The book is not history in the modern sense of the word. As a pleasant story, recalling a unique incident of romance and action, it is readable and commendable, but the author must show more originality of thinking and investigation before he can hope to displace Prescott in the choice of the student.

Commercial Directory of Lima (Peru). 1908. Consulate-General of Peru, 25 Broad street, Broad Exchange Building, New York City. This is, as the title states, a commercial directory of the city of Lima, Peru, with a small introduction descriptive of Lima and of the transportation routes for reaching the city. It is intended for practical use by business men, shippers, and advertisers who may already have commercial relations with Lima or who hope to establish them. Those who have hitherto been puzzled to obtain the necessary information will find in this directory a trustworthy solution, because it has been compiled under the immediate supervision of the Consul-General of Peru, in New York, from authorities which he knows to be thoroughly trustworthy and up to date. The book may be consulted at the Consulate in New York, in the library of the International Bureau of the American Republics, or it can be purchased from the Consulate by those who are not in New York or Washington.

Through Southern Mexico. Being an Account of the Travels of a Naturalist. By Hans Gadow, M. A. Ph. D., F. R. S. London: Witherby & Co. New York: Charles Scribner's Sons, 1908. The

title is altogether too modest, for it gives but faint clew to the unvarying interest the book maintains from the first page to the five hundredth and fifteenth. The naturalist will find in the volume a great collection of interesting facts about the myriad animal life of the Mexican tropics, but even the reader who can not tell an Anableps dowei from a Pseudosmodingium perniciosa need not be frightened at the array of scientific knowledge of southern Mexico displayed by the author, because every page is so delightfully illuminated by anecdote, adventure (it should be stated that the author, with his wife, traveled unconventionally off the beaten highway), and keen observation that a thorough story of Mexico is told as well as a study of animals and insects. Over 160 photographs and drawings add to the clearness of the narrative.

O Brasil, Suas riquezas naturaes—Suas industrias. Volume II. Industria Agricola. This is a critical examination of the resources of Brazil, compiled under official support by agricultural experts of the Republic. Its trustworthy character as a book of reference should be noted by all students of Brazil.

Madame Soledad Acosta de Samper, of Bogota, Republic of Colombia, one of the best woman literateurs of Latin America, has always been known as a leader of thought, and a facile and forceful writer in her country. The last work from her pen is a volume of over four hundred pages entitled "Lecciones de Historia de Colombia," just published by the National Printing Office of Bogota, under the direction of the Ministry of Public Instruction of Colombia. This gives the book an official status, making it a standard work on the history of Colombia for schools, colleges, and library use.

Madame Acosta de Samper has, among other claims to universal respect and consideration, the honors conferred upon her as a corresponding member of the Academy of History, of Caracas, Venezuela, honorary membership in the Writers' and Artists' Association of Madrid, Spain, and, in addition, membership in the Geographical Society of Berne, Switzerland.

The International Bureau of the American Republics is in receipt of the handsomely printed and profusely illustrated prospectus of "El Ecuador," a pictorial guide to Ecuador which will shortly appear in Guayaquil, edited by the Compañia Guia del Ecuador of that city. To quote from the prospectus at hand, the purpose of the

work is to let everybody know what Ecuador is, and what are its natural advantages. The guide will be published in English and Spanish, and, in general, will treat of the following matters:

Map of Ecuador, latest edition. Map of each province. Plan of principal towns, general features. Territorial divisions, statistical and geographical information, orography. Hydrography. Monography of the country and provinces. Natural wealth. Legislative, executive, and judicial powers. National press. Political, administrative, and social guide. Commercial, industrial, and agricultural information. Illustrations of estates, with descriptions of their boundaries, production, etc. Census of rural and city property, indicating the province, region, and parishes of the first, and city, street, and number of the second, both showing their fiscal valuation. Professional, commercial, and industrial guide of the principal towns. Schedule of instruction in government, municipal, and private schools. Addresses of inhabitants of the principal towns. Mails and telegraph. Itineraries and rates. Railroads. Sea and river navigation. Fiscal and municipal taxes. Distance between cities. Means and rates of transportation. Tariff of import and export duties. Compendium of important laws and decrees concerning commerce, industry, and agriculture. Illustrated advertisement with photograph of stores, manufactories, estates, etc.



WHAT IS IN THE MAGAZINES

No more charming and illustrative description of certain phases of life and reflections of history has ever been written than that in the "National Geographic Magazine" (Washington) for October, 1908, by Harriet Chalmers Adams on Cuzco, America's Ancient Mecca. Mrs. Adams is inspired for her work by a sincere love of the beautiful, by an innate appreciation of the picturesque, and by a humane philosophy which enables her to look at both the past and present in true proportion. Cuzco appeals to her, as it must to any traveler whose ideals are not based upon a twentieth century railroad schedule alone, as one of the universal centers around which revolve the history and romance of both the Old World and the New. She tells of the city as it is to-day; of the traces of ancient Inca civilization, of the reconstruction of the early Spanish, and of the coming but hardly yet appreciable struggle between traditionalism and modernism. beautiful illustrations accompanying the article intensify the salient features of the text, but they seem scarcely necessary, so vividly and heartily is the story told. If other parts of Latin-America always received the same sympathetic treatment from cultured observers that Mrs. Adams gives to Peru, our travel, study, and commerce would be immensely stimulated in that direction.

Mexico has aroused liberal attention of late, and three comprehensive articles about the country are attractively presented in current magazines. In the "Outing Magazine" for October, 1908, Mountain Climbing in Mexico, describes in outline the method of ascending the highest peaks in that Republic. The Nevado de Toluca, the Volcan de Colima, and Popocatepetl were climbed by the author (Edmund Otis Hovey), of the Tenth Geological Congress, and his experiences are given in detail for these three. Readers of the article, who may hope some time in the future to be able to repeat the ascents, will find great profit in following the narrative.

The Creole Virgin of Mexico, by A. Marshall, is a study in the "Fortnightly Review" for September, 1908, of the History of the Patron Saint of Mexico, Nuestra Señora de Guadalupe. He traces

her origin into prehistoric Aztec times, asserting, in fact, that on the very spot famous to-day as the location of one of the most picturesque churches of the Republic there existed, when Cortes conquered the country, a heathen chapel to an Indian saint, and that, by a well-understood law of ethnology, when the Indians adopted Christianity they converted for their own use many of their traditions and beliefs. One reason for the persistent popularity of the Guadalupe saint is declared therefore to be the intimate affection preserved by the natives for a patroness of their own blood.

"Dun's Review" (International Edition) for October, 1908, has as its leading article, under the caption, "Local Industries of Worldwide Importance," its second study in the series, called The Henequen Fiber Industry in the State of Yucatan, Mexico. This is illustrated by cuts both of the natural surroundings of the henequen plant and its mode of growth, but also of the industrial processes through which it passes to reach the stage of finished products. A valuable table of exports is in the last paragraph. A suggestion for trade opportunities in Tampico is also given.

"Van Norden Magazine" for November, 1908, under the title "The Court of Revolutions," has a very readable analysis of the newly established "Central American Court of Justice," which recently held its first sessions in the original capital of Costa Rica, the city of Cartago. The appearance of this article is worthy of commendation, because it gives sincere credit to the dignity, the importance, and the far-reaching influence of this admirable arbitration scheme, and shows how rapidly Central America is securing the recognition of which she is worthy.

"Lippincott's Monthly Magazine" for October, 1908, pictures in a cheerful way the kaleidoscopic life at Panama, under the name "The Racial Potpourri on the Isthmus." The author mingles facts and fancy, in the first showing the great number of sources from which the working force on the Isthmus is drawn, the mixture of races going on, and the harmonizing forces in general. The second deals with the future inhabitants on the Isthmus when this conglomeration has become a national whole.

[&]quot;The North American Review" for October, 1908, examines the "Education for the New Consular Career," as applied in general to the consular service of the United States, but it is of peculiar value

to those interested in Latin America because of the closer drawing of the ties between all the republics of the Western Hemisphere. The author shows how impartially the present administration has conducted the consular service, and what great possibilities there are in such a service properly carried out. Details are given concerning the schools where education in foreign affairs to prepare the student for foreign activities can be obtained.

In January, 1907, Prof. Hiram Bingham, of Yale University, made a trip from Caracas, Venezuela, to Bogota, Colombia, over the same path followed by Bolivar in his famous march in 1819, during which he defeated the Spanish army and finally secured the independence of Colombia. Professor Bingham was accompanied by Dr. Hamilton Rice in the trip, which lasted until the end of April of the same year.

A rapid account of this trip is given in "The Geographical Journal" (London) for October, 1908. This account deals almost altogether with the incidents of the journey, the obstacles encountered, the characteristics of the country, the people, and the climate, so that for the most part it is a narrative of travelers on ground seldom trod and practically unknown for nearly a century. Professor Bingham promises to edit a more thorough and elaborate account of this trip, but for the present no more instructive and entertaining account can possibly be presented than this tale of personal adventure. One is surprised and somewhat saddened to learn that over much of the route only traces of the old aristocratic settlements can be found. The path of Bolivar, which at that time led through thriving towns and a rich cattle country, has been abandoned by the present generation, and the earlier foundation has become a wilderness. That this region of South America is capable of supporting an active population, is proved by Professor Bingham's experiences, but many changes will have to be brought about before it regains its former prestige and productivity.

"American Wool and Cotton Reporter" (Boston) for October 8, 1908, has a pleasant sketch by the "Old Observer" on his experiences in Old Mexico, this article being devoted to Jimenez on the Mexican Central and the surrounding country in the State of Chihuahua. The beauty of the city and the excellence of the public-school system is especially emphasized. Particular attention is called to the milling industry in this district, which is now placed upon a substantial footing, and to the abundant yield of wheat which the soil gives. Exact statements about production and prices are given. Another feature studied in detail is the cotton industry of the neighborhood, which belongs to the Laguna district near Torreon.

"The Bankers' Magazine" for September. 1908, with its policy of going outside the United States, continues its special section headed "Latin America." The subheads are entitled "Foreign Capital in Brazil," in which it is remarked that foreign enterprises to the amount of \$100,000,000 were authorized during the last year and that American financial investments were increasing in the Republic to an encouraging extent. Bank rates in Colombia are also discussed and a separate page is given to an analysis of banking in Brazil.

"The American Review of Reviews" for October, 1908, calls attention, in a commendatory article, to the conquest, by Mrs. Annie S. Peck, of the hitherto unconquered Andean peak Mount Huascaran.

"The World's Work" for September, 1908, has a prophetic article on the White Race in the Tropics, in which a careful analysis is given to the possibilities of work and material progress in both Africa and Latin American.

The Railway to Key West along the eastern shore of Florida is the subject of careful criticism in "The Engineering Magazine" for October, 1908, and of a lighter investigation in "The World To-Day" for October, 1908. Both agree that instead of being a folly it is a farsighted endeavor to secure the trade to be developed between the United States and Cuba, and to offer facilities not at present obtainable for a way station between Europe or northern United States and South America via the Panama Canal.

"The Electrical Review" for October 24, 1908, gives a full résumé of the construction and equipment of the electric trolley system just installed and now open for business in Caracas, Venezuela. This has been a project almost ready for years, but now the project has become a fact; cars are running past Bolivar Square, and Caracas is by so much more approximating a modern capital.

The mining conditions of Latin America have aroused noticeable interest in the technical magazines during the past month. For instance, "The Mining World" for October 3 and 17, 1908, has an editorial on Mexico's Foreign Trade; a long, illustrated article called the Rejuvenation of Guanajuato Camp, Mexico; another with Notes on a Douglas Copper Property in Mexico, and a third on Gold Dredging in Colombia.

The "Mexican Mining Journal," October, 1908, gives considerable space to Electric Haulage, mentioning the Dos Estrellas mines, where ten electric locomotives are at work, and prints original contributions from officials on the spot, who tell a great many surprising facts about the mining possibilites in Bolivia.

"The Engineering and Mining Journal," October 17, 1908, gives a technical study of the New Esperanza Mill at El Oro, Mexico. In the issue of the same journal for October 24, 1908, is a similar article by the same author (Mr. Claude T. Rice) on The Working Mines of Guanajuato.

The "American Mining Journal," October 17, 1908, has a lively story—it can not be called anything more—on mining adventures in Honduras.

"The Shoe and Leather Reporter" for September, 1908, has an edition in Spanish called Edición Latina Americana, forgetting evidently that almost one-half of Latin America speaks Portuguese.

"The Manufacturing Jeweler" for October, 1908, gives two pages to consular reports from South American markets for jewelry.

"Industria," a monthly periodical published in London for circulation in South and Central America, Mexico, and West Indies, has just appeared in the accessions to the Columbus Memorial Library. The number for October 1, 1908, reprints a very well prepared consular report (British) on Peru, and that for September 1, 1908, has a study on Central America, including history, geography, resources, and commerce of all Central America. Besides this, there are sketches of Presidents and many items of news.

"The Exporters and Importers' Journal," October 3, 1908, calls attention to the recent opening of the Pan-American Railway in Mexico, and shows how valuable is this line not alone to Mexican trade, but also to the increasing international commerce of the United States.

"The Dixie Miller" (Nashville, Tenn.), October, 1908, contains a letter from a practical milling man who evidently has had long ex-

perience in Mexico, and though all his statements are not entirely flattery to business affairs in that Republic, nevertheless his judgment is sound and as a whole his advice is worth reading by any miller intending to try his luck in Mexico.

[&]quot;The Boot and Shoe Recorder" for October 14, 1908, illustrates one of its minor articles with a reproduction (by permission) of a recent photograph in the Monthly Bulletin.

LATIN-AMERICAN NOTES

An electric street railway service has been inaugurated in Caracas, Venezuela.

A permanent museum of Brazilian products has been established in Trieste, Austria.

A syndicate has been formed in Paris for establishing an automobile passenger service in Rio de Janeiro.

The famous El Callao gold mine in the Yuruari District, Venezuela, has produced over \$40,000,000 of gold.

In 1907 Brazil produced 727,187,465 pounds of coffee, enough to give 2,000 coffee beans to each of the billion and a half inhabitants of the globe.

The Leibig Meat Extract Company at Fray Bentos, Uruguay, has one of the largest plants of its kind in the world. Over 4,000 beeves are killed daily.

The National Department of Hygiene of the Argentine Republic acts as referee in cases of disputed professional accounts between physicians and their patients.

During the fiscal year 1907-8 Mexico exported chick-peas (garbanzos) to the value of \$1,700,000, Spain taking one-half of this amount, the balance going to Cuba, the United States, and Germany, in the order named.

In Buenos Aires the foreigner is permitted to vote in municipal elections without becoming naturalized. He must first show possession of property, or practice one of the liberal professions.

The combined length of the railroads of Mexico and Argentine Republic is 28,181 miles, or enough to encircle the globe at the equator, and in addition to extend from New York to San Francisco.

Mexico possesses the oldest clock, having the longest continuous record on the Western Hemisphere. It was set up in the cathedral of Mexico City in 1657, and in 1790, or one hundred and thirty-three years later, was removed to the town hall in Tlalpam. It did duty until 1904, when it was sent to the National Museum.

Cuba, in 1907, produced a million and a half tons of cane sugar, nearly one-third of the world's crop for the same period, and 56 per cent of the total production of the Western Hemisphere. The island's output is 400,000 tons greater than Java, its nearest competitor in cane-sugar production.

Peruvian balsam is the product of a lofty resinous tree indigenous to a limited area in Salvador, Central America. It is a semifluid compound of resin and essential oil, of a deep brown or black color and a fragrant balsamic odor. It is used in the manufacture of perfumery and drugs.

Latin America has 8 capitals situated over 2,000 feet above sea level. The highest is La Paz, Bolivia, 12,500 feet, and the others in the following order: Quito, Ecuador, 9,350 feet; Bogotá, Colombia, 8,564 feet; Mexico City, 7,475 feet; Guatemala City, Guatemala, 4,878 feet; San José de Costa Rica, 3,816 feet; Caracas, Venezuela, 3,018 feet; and San Salvador, Salvador, 2,112 feet.

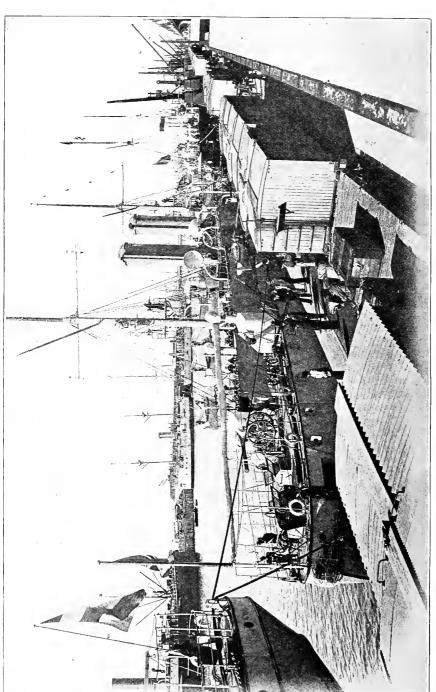
Thorium, which is used in the manufacture of incandescent gas mantles, is extracted from monazite sands, of which Brazil supplies the European market. Ten million pounds were exported last year, but Brazil could easily produce 10,000 tons annually. The United States does not import monazite sands, the commercial supply being obtained from North Carolina.

"El Porvenir," of Cartagena, states that the debt of the Republic of Colombia is 15 francs (\$3) per capita, or the smallest per capita debt of any of the Latin America Republics. The total bonded debt of Colombia is, in round numbers, £2,700,000. These bonds draw interest at the rate of 7 per cent per annum, and are quoted in the market at about 45 per cent of their nominal value.

The national salt mines of Peru, operated as well as controlled by the Government, produced during the first half of 1908 salt to the value of \$197,598, as compared with \$195,835 for the same period during 1907, or an increase in the value of output for the six months of 1908 over 1907 amounting to \$1,763. During this period the Government purchased the Patacocha salt mines, paying therefor the sum of \$14,600.

The upper slopes of El Misti Mountain in Peru are covered with a mosslike plant known as "yareta." At an elevation of 15,000 or 16,000 feet, where other vegetation can not live, this growth is found in the greatest abundance. It contains resin in sufficient quantity to make it valuable as fuel, and is largely used for this purpose by the inhabitants of the lower country. Specimens of this plant have been found as high as 17,000 feet above sea level.

The Post-Office Department of the Argentine Republic permits the forwarding of packages from the general post-office to branches throughout the country on a c. o. d. basis, but before the recipient is permitted to examine the contents he must pay the declared value to the postman. This arrangement is proving satisfactory and of much benefit to residents of the interior desiring to order goods from the large cities.



WARSHIPS AT THE DOCKS, BUENOS AIRES.

A very imposing scene of Argentine warships at the extensive docks of Buenos Aires. It was due to the genius of the late Gen. Domingo F. Sarmicnto, President of the Argentine Republic from 1868 to 1874, that the foundations of Argentina's splendid modern navy were laid, and the harbor of Buenos Aires was deepened and widened. During his régime also the construction of modern docks was begun.

MUNICIPAL ORGANIZA-TION IN THE CAPITALS OF LATIN-AMERICA :: ::

BUENOS AIRES.

■HE city of Buenos Aires, capital of the Argentine Republic, on June 30, 1908, had 1,146,865 inhabitants. The rate of increase has been close to 5 per cent from year to year, and promises to rise above this owing to circumstances that are naturally and artificially advantageous. This growth of the city is high as compared to other important cities of both Europe and America, surpassing even every city in the United States except The reasons for this increase can be traced to three causes. The first is the steady stream of immigration which flows from other countries toward the River Plate; in 1907, 329,122 individuals landed at the port; of these 209,103 were immigrants arriving for settlement within the country. The nationality of these embryo citizens is of great interest; Italy and Spain send the largest proportion, but Russia, Syria, France, Austria, Germany, Great Britain, and Portugal each sends over 1,000; every country in Europe offers some contribution, all divisions of Africa and many of the Latin-American republics are represented, while North America, China, and Japan and Africa help to swell the total. Not all of these immigrants become residents of Buenos Aires, some going farther into the interior, and a measurable proportion returning to their oversea homes (of course this does not imply that the same individuals come and go, but immigration usually surpasses emigration by certain fairly accurate accurate figures); the result, however, is that upward of 100,000 immigrants are added each year to the population. The second cause is the high birth rate enjoyed by Bunos Aires; for several years this has been steadily maintained at close to 35 per 1,000. This is twice as high as that of Paris, half again as high as that of London, higher than that of New York, and surpassed by the birth rate of Nuremburg (Germany) only. The third cause is the low death rate of the city, in which respect it compares very favorably with all the cities of the

civilized world, being lower than that of Paris and New York, and higher than that of London, Edinburg, Berlin, and Hamburg. The results in the reduction of the death rate are due unmistakably to the



HOTEL METROPOLE, BUENOS AIRES.

One of the many splendid hotels of Buenos Aires, situated on Avenida de Mayo, in the heart of the business section of the Argentine capital.

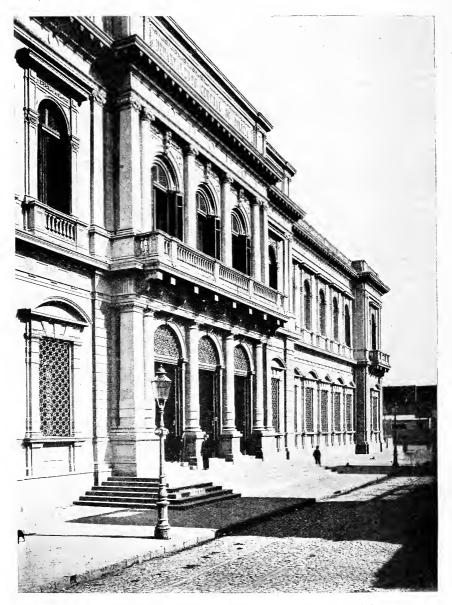
great progress made by the nunicipality of Buenos Aires in all details of improving the hygiene of the city.

Buenos Aires is both a municipality and the capital of the Argentine Republic, and as such has an organization as a city as well as an intimate connection with the Federal Government. The latter association is maintained by means of an official called the Intendente (Municipal), who is appointed by the President (Poder Ejecutivo) of the Republic, subject to the approval of the National Senate, for a term of four years, and who receives a salary. He performs to a great degree the function of Mayor in any (North) American city, and is to a large extent amenable to the rules of the deliberate council. Through him municipal matters are presented to the National Assembly whenever necessary, and he likewise, as representative of the nation, is empowered, acting thus through the Minister of the Interior, to present to the municipality whatever business has originated in Congress. Other manifestations of this dual character of the city are to be found in the direction of the police and fire departments, which are under the control of, and the expenses of which are met by, the Federal Government. Certain factors of the educational system, and likewise the sanitary regulations of the city, carried out by means of a national department of hygiene and a municipal department of public service—the Asistancia Publica—are partly national in character. These institutions will be examined later.

The city, municipality itself, is divided into 20 parishes (Parroquias), corresponding to the wards of a (North) American city. From these parishes, on a basis of population, representatives are chosen by ballot of the citizens to form a body called the Concejo Deliberante, corresponding in most details to our Common Council. These officials serve without pay for a term of four years, one-half of their number being elected every two years, however. This so-called deliberative body chooses from among its members a President, a First and Second Vice-President. These officials serve as provisional substitutes for the Intendente whenever occasion requires.

The great departments of the municipal government may be classified as follows: Finance, which includes the functions usually understood in such a department; Public Works, having charge of municipal buildings, water supply, sewers, streets, paving, repairing and opening of streets and alleys, administration of building laws, control of public markets, bridges, parks, squares, and monuments; Security and Hygiene, giving particular attention to buildings like theaters, where public meetings are held; street cleaning, food supplies, regulation of weights and measures, certain authority over hospitals and asylums, prevention or control of epidemics, and the municipal side of the public relief service. Rules for the preservation of public morality are enforced through this department. A Law Department is also maintained.

Buenos Aires is located geographically at 34° 36′ 21″ south latitude, and 58° 21′ 33″ west longitude from Greenwich. It is prac-



POLICE DEPARTMENT, BUENOS AIRES, ARGENTINE REPUBLIC.

This handsome building is the central station of the 32 police precinets into which the city of Buenos Aires is divided. The police force, consisting of about 4,000 officers and men, is supplemented by a mounted squadron of 100 gendarmes. The police department is well organized, and is noted for the quickness and effectiveness of its service.

tically at the same distance from the equator as Los Angeles, California, and is blessed with a similar climate. The city measures $62\frac{1}{2}$

kilometers (40 miles) in circumference, and has an area of 18,141 hectares (about 70 square miles), equal in size, therefore, to Washington, D. C. (which in this respect is coextensive with the District of Columbia), but smaller than London, Marseilles, or Manchester, Greater New York, New Orleans, Philadelphia, and Chicago, and larger than Paris, Berlin, or Vienna. Ample preparation has been made for future growth, because the open spaces, exclusive of an extensive park system, will permit a much greater population than lives at present within its confines. In the city ten years ago there were 55,000 houses; 64,000 building permits were issued since then to 1906;



CHAPEL, CHACHARITA CEMETERY, BUENOS AIRES, ARGENTINE REPUBLIC.

This cemetery, consisting of 182 acres of land, is five miles from the center of the city of Buenos Aires, with which it is connected by a tramway. It was opened for public use in 1867. In addition to a fine chapel, the cemetery has an excellently equipped crematory, and the location and topography of the land make it one of the great burying grounds of the Argentine Republic.

and in 1907 there were 14,489 building permits issued, which is the highest figure reached in the city's history.

The city is laid out on the rectangular plan, each square measuring 130 meters (almost 400 feet) on a side. The rectangular pattern is more evident away from the older portion of the city, where, despite the radical improvements within the past generation, some irregularity was unavoidably left. Every corner of street intersections is marked in clear letters by the name of the street, easily readable by the foot passenger; street numbering is on the century system. At the end of 1907, 7,000,000 square yards of pavement had been laid, the most

generally used being granite blocks with mortar foundation, then granite blocks with sand foundation, stone, wooden blocks, macadam, and asphalt.

The number of individual streets passes the 300 mark, but some of the longest have separate names for separate sections. If extended in a straight line they would measure about 600 miles. Many of them are fine, broad avenues 100 feet or more in width, only a few of the narrow passages of the earlier city being left after the reconstruction of the city from 1889 onward, and the law in force to-day is that no street opened in the future can be less than 17.32 meters (almost 60 feet) in width. In this connection it is worth mentioning that the municipal authorities have a commission for the encouragement of architecture in the city, and a prize—a gold medal together with a diploma—is offered yearly for the most attractively designed structure erected. In addition to this reward for the architect, the owner of the building is excused from payment of the taxes that would legally be imposed upon the premises. The building line, that is, the height of the structure relative to the width of the street, is carefully established and the law regarding it rigidly enforced. Fortunately neither the habit or the taste of the inhabitants encourages high buildings; the area of the city is so great that no special demand need arise for a central but congested "business portion," and therefore violation of the law would be not only a crime but an unpardonable offense against the artistic sense which is so characteristic of There is also a law regulating street advertising. the Latin race. and display signs are supposed to be kept within reasonable bounds, but it can not be said that in this respect the artistic temperament is so completely satisfied. The monstrosities of a Broadway do not, to be sure, repel the traveler, but even in Latin-America the temptation seems to be irresistible to occupy an empty space by a multicolored signboard.

The municipal revenue is derived from many of the same sources that furnish funds to all cities, and is divided into five classes: (1) Revenue other than by taxation; this includes charges for paving and draining, chemical analyses, admission to Zoological Gardens (in Buenos Aires this garden, one of the finest in the world, is municipally owned and managed), advertising (signifying permits to do so), and other similar payments; (2) charges on private property and municipal enterprises, such as slaughterhouses, markets, cemeteries, crematories (for refuse), property leases, and the National Lottery; (3) direct taxes, including municipal licenses; (4) indirect taxes, such as those on buildings and land, inspection fees, control of weights and measures, and payments on admission to race courses; and (5) casual receipts of a miscellaneous character.

Among the sources of revenue included under the tax lists are imposts upon street cars, carriages, dogs, theaters, billiard halls, telegraph and telephone messages, the use of spaces beneath city streets,



THE GENERAL BELGRANO MAUSOLEUM, BUENOS AIRES.

This mausoleum contains the ashes of the illustrious Argentine general and patriot, Manuel Belgrano, who took a prominent part in inaugurating the revolution of May 25, 1810, in Buenos Aires, and whose celebrated victories over the Spaniards at Tucumán, in 1812, and Salta, in 1813, showed him to be one of the ablest and bravest generals of the Republic.

on provisions and wagons conveying them about the city, peddlers, hotels and such public houses, cellars, etc. Such a special taxation

as cities in the United States impose upon what are here called saloons, the intent of which is often quite as much for the purpose of prohibition as it is to raise revenue, is not applied in Buenos Aires, because the people are, in the main, temperate, and the business of dispensing beer, wine, or stronger alcoholic drink is not so specialized



MERCADO DE PILAR, BUENOS AIRES, ARGENTINE REPUBLIC.

One of the numerous markets of the city of Buenos Aires. The stalls and stands are required to be kept scrupulously clean, and strict hygienic regulations must be observed in the sale of fruits, vegetables, meats, and other similar products.

there. A late report gives the number of cafés at about 400, of which 40 are at the same time restaurants, but of course this does not include the scores of small booths, or what are called delicatessen shops in Germany and the United States, where drinks of one kind and

another are sold alongside of foods, preserves, and the less substantial provisions for domestic consumption. Many shops sell drinkables, but saloons or barrooms are to be found only in the congested center of the city, where foreign habits have popularized themselves in a cosmopolitan sense. If it can be said to the credit of the inhabitants of Buenos Aires that they are not dangerously great drinkers of alcohol, it can be asserted, with equal commendation of their habits and of the watchfulness of the municipal administration, that they are remarkably fond of milk drinks and foods. There were at the last inspection 275 tambos (a milk shop with cows kept on the premises) and innumerable lecherias (inspected shops where milk is



MUNICIPAL SLAUGHTERHOUSES, LINARES, ARGENTINE REPUBLIC.

The municipal slaughterhouses, which furnish Buenos Aires with an excellent supply of fresh meats, are located at Linares, a suburb within the limits of the corporation, about eight miles distant from the center of the city. These well-equipped establishments are models of neatness and order, and a source of revenue to the municipal government.

sold); in them pasteurized milk and cream is obtainable at a very moderate price a glass, and the cleanliness of the shops, the neatness of the fittings, and the attractiveness of the attendants go a long way to encourage the desire for milk and to neutralize the Anglo-Saxon custom of asking for malt or stronger alcoholic drinks. As one official puts it, "frozen milk (the equivalent of ice-cream) is the national drink during the dog days." The daily supply of milk for the city is close to 400,000 quarts, 93 per cent of which is brought from dairy farms close to the outskirts. All the cows are carefully inspected, and control is exercised over this food until it reaches the consumer.

The expenses for 1907 of the municipality of Buenos Aires amounted to \$20,751,300 national currency (\$1 national currency, written also m/n, = \$0.45 gold). Of this, \$2,552,000 is paid out as interest upon the city's public debt, and this amount equals 12.32 per cent of the total expenses of the municipality. The revenues for the same period amounted to \$24,239,408, a surplus being left therefore. For 1908 the budget was given out as \$27,226,644 national currency. Of this sum a goodly share goes toward payment of salaries of 7,140 employees on the city's pay roll, and the remainder is expended on new market buildings, \$500,000; new avenues and streets, \$700,000;



PRESIDENT MITRE SCHOOL, BUENOS AIRES, ARGENTINE REPUBLIC.

This commodious and well-equipped edifice was specially constructed by the Federal Government for use of the primary and grammar grades. The public school system of Buenos Aires is under the control of a school board, and primary instruction is obligatory.

the Colon Theater, \$890,000; improvements on the Liniers Abattoir, \$540,000; acquiring works of art and for propagating national art and literature, \$50,000, and for a new charity institution, \$537,805, with other appropriations of a smaller nature. (All these sums are in national currency.) The ordinary expenses of the budget refer to the usual institutions maintained by a modern city. The police and fire departments, however, are supported and their organization controlled by the National Government. Although the municipality has certain jurisdiction over both in so far as they are necessarily subject to the regulations of the city and must be used to enforce



DRESS PARADE FIRE DEPARTMENT, BUENOS AIRES, ARGENTINE REPUBLIC.

Buenos Aires has one of the best drilled and most efficient fire departments of any of the large cities of the world. The equipment is thoroughly modern, and excellent service is rendered on all occasions. The sixteen sections into which the department is divided comprise 1.200 officers and men. The gala parades of the department show the skill and ease with which this well-trained corps is able to perform the most complicated and difficult maneuvers.

certain ordinances and functions of the municipality, yet the responsibility for their payment and for their conduct falls upon the nation.

The Police Department consists of something over 4,000 members, at the last official statement the proportion to population being 1 to 260. Of this number, at least 100 are mounted policemen. For police purposes the city is divided into 32 districts, with a station in each and a central office in the heart of the city. The cost to the Government of this service is upward of \$6,000,000 national currency. The Fire Department has 1,200 members and 16 stations in separate

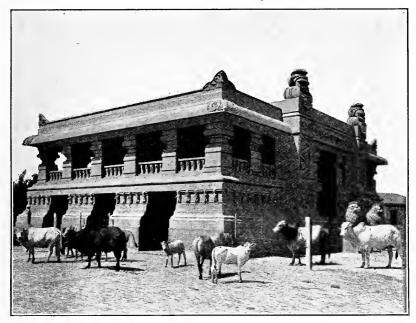


CANDY AND BISCUIT FACTORY, BUENOS AIRES, ARGENTINE REPUBLIC.

The great industrial city of Buenos Aires is fast becoming a noted manufacturing center, and especially is this true of food products. Situated in close proximity to the sources of supply of the raw material, and under the beneficent stimulus of a wise policy of government encouragement and protection, manufacturing establishments are increasing at a rapid rate, and many articles which have hitherto been imported in considerable quantities are now manufactured to such an extent as to meet the demands of local consumption, while in some instances there is a surplus for export to the neighboring republics.

divisions of the city, and is considered an efficient brigade in every respect. In 1907 the fire losses amounted to \$5,803,975 (national currency), with 172 alarms. Both these departments have the distinguishing feature of being part of the military system of the country. Officially they are enrolled under the Department of the Interior, but in times of distrubance they are subject to orders of a military character, and the discipline maintained is much more military than civil.

Sanitation in Buenos Aires is controlled by both the national and the municipal authorities. The former is called the National Department of Hygiene; the latter, Assistencia Publica, or Public Aid Service. The national body controls those conditions that more directly affect the whole country through the gateway of the city. It may be compared to the Marine-Hospital Service in the United States, or rather to what that service will be when harmonized with local boards of health. It watches over sanitary matters at the port, regulates vaccination, inspects drug stores, calls the attention of the municipality to unhygienic conditions it may detect in the city, supports the city authorities in cases of epidemics, and has certain offices to perform in all duties relating to hospitals or other charitable in-



THE PAVILION FOR ZEBUS AT THE ZOOLOGICAL GARDENS, BUENOS AIRES, ARGENTINE REPUBLIC.

The Zoological Gardens are situated in the large and beautiful Palmero Park, which comprises an area of about 1,000 acres. The grounds are artistically laid out, and there are a number of artificial lakes, as well as attractive walks lined with shrubbery and trees. The principal species of animals are housed in separate buildings. These gardens become popular resorts on Sundays and holidays, at which time thousands of people visit them to inspect and admire the large collection of animals.

stitutions. The Public Aid Service has a more intimate function; it has charge of institutions of public aid; in its care is the municipal laboratory, the bacteriologic examinations, the machinery for disinfection, and, perhaps as important a service as any, it has active control of the relief ambulances that are ready for all emergencies and offer remarkably efficacious assistance in accidents of all kinds.

The water supply and sewer system of the city are virtually departments of the National Government, and the cost of maintenance is paid out of the National Treasury, but it must be noted that no city in the world has a superior service, and that, while the mortality rate on account of this service has demonstrably declined to one of the lowest among cities of this class, provision is also made for meeting future growth. Water is taken from the River Plate far enough up to avoid any chance of pollution. The supply comes from wells driven beneath the surface of the river, and is pumped through tunnels to a central station in the city. Here the water is sedimented and filtered, and is then distributed to all portions of the city. The average daily water supply for 1907 was 126 liters (32 gallons) per inhabitant, but parts of the municipality are not yet reached by the system, although every effort is made to keep pace with the rapid



NEW MODEL MARKET, BUENOS AIRES, ARGENTINE REPUBLIC.

The New Model Market of Buenos Aires is under municipal control. The arrangement is good and the location convenient. The greatest neatness and cleanliness are observed in the sale of food products, and the organization and management of the market is a credit to the municipal government of the city.

building going on. The sewerage system can be described in general terms as that of discharge into the River Plate below the city, so that it is finally carried out to sea without contaminating surrounding intakes. It is elaborately devised, is modern in every way, and, as gravity is not sufficient to carry off the sewage, a carefully adjusted plan of pumps and relief sewers answers every requirement.

The docks and harbors of the city were built by and are under the management of the National Government. They are divided into two sections, one along the Riachuelo forming the southern boundary of the city; the other, composed of the north and south docks or basins, lying in front of the city to the east on the River Plate.

The public lighting of the city of Buenos Aires is effected in four ways, by kerosene, alcohol, gas, and electricity. There are still 5,540 oil lamps in use and 1,163 alcohol lamps. Of gas lamps there are 24,767 (9,358 of which are incandescent). Electricity is supplied to 2,375 lamps of different watts power. There are 3 private gas companies with 87,203 subscribers, and rather high rates for the supply. There is only one electric company, a private organization, which furnishes current for both illumination and power. The municipality lights the new slaughterhouses and the outlying city divisions of Palermo, Flores, and Belgrano.

The public-school system is partly national, partly municipal, although it is all under the authority of the National Government. There are primary, secondary, commercial, industrial, and higher grades. The first is gratuitous and compulsory for children from 6 to 14 years, and is under the direction of the National Council of Education, which is supported by funds from both the National Treasury and certain municipal taxes. In Buenos Aires there are 88,951 public-school children in attendance in the primary grade, 2,505 in the secondary grade, 1,256 in the Commercial High School for Boys, and 246 in the same school for girls. Other schools of a public character advance the pupil in commercial or technical and industrial education, and finally the candidate for a degree may choose a course in the National University in Buenos Aires. This latter is not coeducational. There are also fine arts schools and special institutions for the deaf and dumb and for the blind.

Buenos Aires has only two public libraries, the National, supported by public funds; the other, called the Municipal Library, but supported by a private society. They are not developed to the degree of the many public institutions of the city.

There are 16 named theaters, besides several circuses and numerous cinematograph exhibitions. The Opera, but which will hereafter be in the new Colon Theater, is municipally owned and managed, and a source of great pride to the city, although not commercially a paying investment. As a rule, however, the taxpayers do not grumble over the cost, so long as they are sure that during the year they can see and hear the best art the world offers. The attendance at all theaters during the last year was 4,897,450, paying for their amusement \$6,481,645 national currency. That the inhabitants love entertainment out of doors as well as in, shows itself in the attendance at the Zoological Garden, which was 1,033,000, exclusive of school children (47,000), soldiers, sailors, and infants. This garden belongs to the municipality, together with the entire park system within the city limits of nearly 10,000,000 (4 square miles) square meters, which includes boulevards, squares, open spaces, and hospital gardens.

There are 9 public parks, the largest of which, 3 de Febrero, covers one-half the entire area, 14 boulevards and gardens, 35 squares, 10 open spaces, 9 hospital gardens, and 8 additions in construction. When it is considered that the prevailing style of house construction is one-storied and that the city has planted and cares for 150,856 trees outside all these parks, it will be seen that ample breathing space is provided by the municipality.

Buenos Aires controls 34 municipal markets, supervises 18 hospitals, maintains 3 public baths, a loan and savings bank, a public slaughterhouse, night refuges, a crematory, and a cemetery. There is a penitentiary, which is national, and a city house of correction for males, with a second for females.

Local traction is altogether in the hands of private initiative and operation. There are 14 traction companies, 5 being with horse power and 9 with electric power, with a total length of 550 kilometers (345 miles) over which the zone system of payment is maintained. They carried 225,000,000 passengers in 1907, an increase of 49,000,000 passengers in two years; 6,342 carriages, 1,327 automobiles, 77 motor cycles, and 20,379 carts add to the means of locomotion. The streets were the scene of 3,199 collisions and 1,074 other accidents.

The municipality publishes a Monthly Bulletin and a Year-Book, both full of statistical and general information.



WILLIAM WHEELVRIGHT A NORTH AMERICAN CAPTAIN OF INDUSTRY IN LATIN AMERICA:::,

ITHIN the last one hundred years there have been not a few noted North American promotors of enterprises in Mexico, the West Indies, Central America, and South America, who are regarded by the Latin Americans as among their greatest benefactors. One of the most preeminent of all these promoters, whose memory is honored throughout Latin America, and whose statue is standing in front of the Merchants' Exchange Building, in Valparaiso, is the late Mr. William Wheelwright, of Newburyport, Massachusetts. His remarkable career is one of the romances of modern industrial progress and educational enlightenment in the southern half of the New World.

William Wheelwright was born in Newburyport, Massachusetts, 30 miles north of Boston, or an hour's ride from that city by express train, March 16, 1798. He came from that sturdy Puritan stock of New England which has so powerfully contributed toward making the United States one of the great enlightened nations of the world. Not a few of his ancestors rendered conspicuous military service during the protracted French and Indian wars, and his uncle, Abraham Wheelwright, of Newburyport, Massachusetts, served, during the North American Revolution, under Washington, was captured by the British and transported to England, but finally escaped back to America.

After the war, in partnership with his brother, EBENEZER, WILLIAM WHEELWRIGHT established a large and profitable business with the West Indies. He died April 19, 1873, at the advanced age of 95.

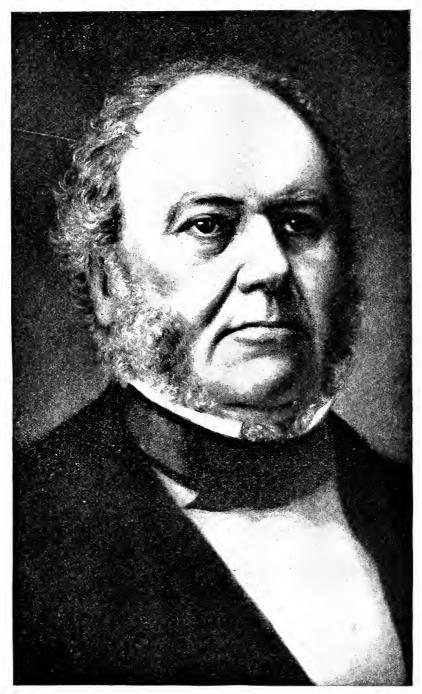
Although Newburyport is still one of the minor cities of the United States, it has had a very interesting history, and is celebrated for having been the birthplace of the elder William Lloyd Garrison, the uncompromising abolitionist and friend of the slaves. The city has ever had a deserved reputation for the exceptional public spirit

of its inhabitants. Its cemeteries contain the names of the Danas, Pillsburys, and those of other families who have furnished philanthropists, statesmen, heroes, lawyers, journalists, and captains of industry who have notably contributed toward making the United States the splendid and great republic which it has become.

The city is not a maritime port, but it has its custom-house, as it lies on the right bank of the Parker River, which is really the mouth of the Merrimack, and flows into the Atlantic Ocean. A sand bar obstructs the access of Newburyport to the open sea, but in the boyhood days of William Wheelwright it vied with Boston and Salem, Mass., in the importance of its international commerce, and it carried on an important trade with Mexico, the West Indies, Central America, and South America. Along the water front the observant visitor may still see the wharves and warehouses of its former merchants, shipbuilders, and sea captains.

Such, then, being the environment in which William Wheel-wright spent his boyhood days, it is not surprising that he early evinced an intense desire to follow a seafaring life, the more so, perhaps, as, in those times of slow-going sailing vessels of slight tonnage, there was a weird and often terrible fascination in tales of the perils of the deep, and of stanch wooden ships that had traversed the oceans and were never heard of again. His wishes were at length gratified, and when he was 16 years old he shipped as a cabin boy on a vessel bound for the West Indies. He rose rapidly through all the grades, until at the end of three years he became a captain, in 1817. He was now destined to go through a number of exciting adventures, once suffering shipwreck in the West Indies, and on another occasion barely escaping assassination through a mutinous sailor.

At 25, in 1823, he was intrusted with the command of a sailing vessel, the Rising Star, bound from Newburyport for Buenos Aires. After a long voyage the ship entered the broad estuary of the Plata River, but stranded on what is known as the Ortiz Bank and became a total loss. After hard exertions in a rowboat the crew succeeded in reaching a friendly Indian settlement in the interior, where they were hospitably treated. Mr. Wheelwright preserved his equanimity in the midst of this disaster, and was offered by his employer, Mr. Barlet, of Newburyport, the command of another vessel if he would return. Our hero, however, perceived that he had a mission to perform in South America, on the Atlantic and south temperate shore of which he had been so strangely cast. He was to become, in the language of his Argentine biographer, Señor Alberdi, "a new HERNANDO CORTÉS, who remained in the land of his shipwreck to conquer its soil, not by arms, but by steam; not for Spain, but for civilization; not for all-absorbing North America, but to assure to South America the sovereign possession of herself."



WILLIAM WHEELWRIGHT,
North American Captain of Industry in Latin America.

Although he was now cut off by thousands of miles from his home and all friends, he wasted no time in useless repining, but gladly accepted the position of supercargo in a ship going to Valparaiso, and after a tempestuous voyage through the dangerous Strait of Magellan, and thence northward up the Pacific coast, he arrived at his destination. He possessed, fortunately, an excellent command of the Spanish language, trained powers of observation, determination, rare tact, and great executive ability. He perceived that something more was necessary for the welfare of South America than mere political independence from Spain or any other foreign power—that her inhabitants required, above all, the development of all her resources and the blessings of commerce and industry. Undeterred by obstructive and reactionary influences, he accordingly set to work to advocate public and private sanitary improvements, the construction of gas works, the paving of streets in Valparaiso and other cities of Chile, and the building of light-houses and docks.

In 1824 he was appointed United States Consul at Guayaquil, Republic of Ecuador, then the most important port on the Pacific coast of South America. This position in those days was equivalent in prestige to that of being an ambassador, and, as the diplomatic representative of a great neutral power, with no interest whatever in the petty jealousies and ambitions which then unfortunately distracted the various South American republics, he was enabled to wield a great influence for the restoration of harmony and good will. His consecration in the discharge of his public duties was not affected by personal reverses; such, for example, as the total destruction by fire of all his

personal property.

Mr. Wheelwright finally removed to Valparaiso, Chile, then an insignificant and exposed port. Under his directing genius, its aspect was quickly changed, adequate docks were constructed, radical sanitary reforms were inaugurated, pure water was furnished to the inhabitants of Valparaiso by means of proper waterworks, and other improvements were started. His restless activity was felt along the entire western or Pacific coast of South America, from Valparaiso to Panama, while he was constantly engaged in voyages of exploration, for the purpose of verifying or discovering natural products useful for commercial exploitation, such as coal, saltpeter, borax, lime, copper and other minerals and substances which now constitute so large a portion of the industrial prosperity of South America. His most notable achievement was the skill and daring with which he introduced steam navigation along the coasts of South America. He had many obstacles to overcome and his startling proposals were at first coldly received, but he secured at length official concessions from Chile, Bolivia, Peru, Ecuador, and Colombia. He had now taken a long step toward the consummation of his enterprise, but he

completely lacked the capital to carry it forward. The question arose: In what quarter could he find financial backing? He turned at first to his own native country, the United States, but Americans, with the fatal blindness which has ever characterized them in their commercial

dealings with Latin-America, looked coldly a project which promised no immediate returns in profits. He was obliged, therefore, to endeavor to interest British capitalists. With this object in view, he repaired to Great Britain in 1838, and visited Glasgow and London. In the latter metropolis he secured the cooperation of the enpress, interested such scientists as the eminent Sir Clements R. MARKHAM, the British geographer, and, as the result of his propaganda, induced leading British capitalists to form a company, under the name of "The Pacific Steam Navigation Company," which readily obtained a royal charter of incorporation, and of which the directors appointed Mr. Wheelwright chief superintendent. A capital of \$1,250,000, divided into 5.000 shares. was subscribed. Two sister steamers.



STATUE OF WILLIAM WHEELWRIGHT.

This statue was erected in Valparaiso, Chile, in 1876, funds for this purpose having been obtained by popular subscriptions in Chile and the Argentine Republic. One of the principal advocates of perpetuating the memory of Mr. Wheelwright through the erection of this statue was the late Dr. J. B. Alberdi, the distinguished Argentine statesman.

Chile and the Peru, of 700 tons and 150 horsepower each were built by Messrs. Young & Company, of Limehouse, England.

Excitement was tremendous when these two sister steamers, the result of six years of strenuous efforts on the part of Mr. Wheel-

WRIGHT, successfully passed through the Strait of Magellan in October, 1840, and made their startling appearance in the ports of Valparaiso, Chile, and Callao, Peru. Their arrival at Valparaiso on the 16th of October, as the first trans-Atlantic liners ever to traverse the waters of South America, was welcomed with deafening salvos of artillery from all the Chilean warships and forts. The population turned out en masse. Four thousand people occupied every point of vantage on the heights overlooking the bay of Valparaiso, in order to feast their eyes on what to them was an eighth wonder of the world. Military bands were playing music, while Mr. Wheelwright, from the deck of the Chile, with his hat in his hand, was bowing his acknowledgments to the wildly cheering spectators.

With the arrival of the *Chile* and *Peru*, the modern era of commerce was inaugurated in South America. Compared with the mammoth palatial trans-Atlantic and trans-Pacific vessels of the present day, those two little steamers, each of 700 tons, 150 horsepower, 180 feet long, 30 beam, and 15 depth of hold, with cabin accommodation for 150 passengers, and capable of receiving 300 tons of merchandise, were modest, indeed. Their advent, however, marked a peaceful, beneficent revolution of the most far-reaching consequences, and the master genius which had brought them into active service was worthy of all the honors and tributes usually accorded to great generals and admirals returning from a successful war.

Similar demonstrations were extended when these vessels steamed into the port of Callao, Peru. Besides the popular demonstration, the President of the Republic, accompanied by the entire diplomatic corps accredited to that country, went on board the *Peru*, where a sumptous banquet was served in the *salon*, at which over 100 persons sat. Mr. Wheelwright, in answer to the congratulations of the President, explained the advantages South America would enjoy through the operations of the new steamship company, and predicted that new and prosperous communities would grow up in Australia, Japan, and the farthest Antipodes, and that South America would have a very large share of the extensive foreign commerce of the Asiatic Orient.

All difficulties in the way of successfully establishing steam navigation along the Pacific coast of South America were not yet overcome, but Mr. Wheelwright met all obstacles with the indomitable energy, patience, and skill for which he was ever noted. Important as steamships were, he regarded them as but only one step in the redemption of the land of his adoption. He knew that they must be supplemented by railways. His first undertaking in that direction was at Copiapó, in the desert region of Atacama, northern Chile, the extremely rich copper and silver mines of which were practically worthless because Copiapó lay 90 miles inland from the nearest port,

Caldera, on the Pacific, with which it was connected only by an almost impassable wagon road. Wheelwright at once set to work, and quickly converted the sleepy fishing village of Caldera into a thriving seaport, with ample docks, the population, in the course of one single year, 1851–1852, rising from 800 souls to more than 2,000. He then organized a company, with a capital of \$3,700,000 and with the aid of two American engineers, built a railway from Caldera to

the mines of Copiapó, by the most direct route to the foothills of a low spur of the Andes, $51\frac{1}{2}$ miles. This railway, in those days, was a marvel of engineering construction, and trains of ore could be brought right up to the wharves of Caldera, where the minerals could be loaded upon steamers.

He now turned his attention to the then wild and sparsely settled pampa or prairie region of the Argentine Republic, 1,500 miles long by a thousand wide, at that time a fertile wilderness like the great western prairies of the United States in the early forties and fifties. This was an ideal country for railroad construction, and he conceived the plan of building a railway from Caldera, on the Chilean side, through the mountain pass of San Franthence and



SILVER TROPHY.

This trophy was presented to Mr. William Wheelwright, chief superintendent of the Pacific Steam Navigation Company, by the commercial community of Valparaiso, Chile, as a testimonial of their appreciation, January 15, 1842. The inscription on the trophy is as follows: "Presented by the Commercial Community of Valparaiso to William Wheel-wright. Esq., Chief Superintendent of the Pacific Steam Navigation Company, as a Testimonial of their Respect and Esteem of his Character and their Admiration of His Merits."

across the pampas to the port of Rosario, Argentina, on the majestic Parana River, 189 miles above Buenos Aires. The region adjoining the pass of San Francisco is rich in minerals, and the pass is, during the entire year, sufficiently free from snow and ice to render rapid and uninterrupted transit over it perfectly feasible if a properly constructed and equipped railway were in operation, across the route

surveyed by two prominent American engineers employed by Mr. Wheelwright. This proposal for a transandean railway between Chile and the Argentine Republic was not generally favorably considered at the time Mr. Wheelwright proposed it, but it will some day doubtless be constructed, as he suggested, when its great commercial and industrial advantages are realized. Wheelwright, however, had the satisfaction of building the first really important railway in the Argentine Republic, 246 miles long, from the port of Rosario to Cordova City, Central Argentina, in spite of seventeen vears of constant reverses, due to civil strife in the Republic, and the six years of foreign war which the allied South American Republics of Argentina and Uruguay, together with Brazil, then an empire under Dom Pedro II, waged against Paraguay. At length better days for the peace and harmony of South America dawned, and, on the 16th of May, 1870, the railway was solemnly inaugurated and opened to the public, with the most imposing military, religious, and civil ceremonies.

Mr. Wheelwright's last public service for South America was the construction of a railway from Buenos Aires to its natural port, the Bay of Ensenada (now rechristened the Bay of La Plata), which was formally opened to the public, with the most elaborate ceremonies, on the 31st of December, fifty years after Wheelwright had been so strangely shipwrecked in South America, near this spot. He contemplated, in connection with this railway, constructing extensive docks and warehouses at the port of La Plata, but physical infirmities prevented him from carrying these projects into execution.

This high-minded North American benefactor of South America had suffered many bereavements in his own family circle, and his health utterly breaking down in 1873, he sailed from Buenos Aires for London, where he received every attention which the most expert medical skill and nursing could devise. Nevertheless his health rapidly failed, and, surrounded by his loving family, he expired on the 28th of September, 1873. His remains were transported to his birthplace, Newburyport, Massachusetts, and interred, amid manifestations of the sorrow of his fellow-townsmen, in the beautiful Oak Hill Cemetery. A chaste and artistic marble monument, in keeping with his Puritan spirit, and brought over from Italy, marks the last resting place of this wonderful industrial pioneer of the southern half of the New World.

His death was sincerely mourned throughout Latin America. Grateful Argentina and Chile did not forget their noble Puritan benefactor, and in 1876, three years after his decease, and as the result of popular subscriptions in both Republics, a splendid statue of him was erected and unveiled in front of the Merchants' Exchange of Valparaiso.

GOLD MINING IN COLOMBIA AND PERU

N the minds of many people the Andes exist as a single well-defined mountain range extending from the Isthmus of Panama to Patagonia, parallel and near to the Pacific Coast of the Continent of South America. As a matter of fact the great South American mountain system presents scarcely anywhere throughout its extent a well-defined range. Most often there are several ranges, sometimes approximately parallel, then again appearing as offshoots, the one to the other, and sometimes for hundreds of miles with not even the semblance of contiguity, simply great mountain masses dropped down, apparently by hazard.

In Colombia the Andes divide into three loosely constructed chains, running in a general north and south direction, and known as the Eastern, Central, and Western Cordilleras. Between the Eastern and the Western, and divided by the Central Cordilleras, are the two deep longitudinal valleys of the Cauca and the Magdalena. In the north there is the great massif of Santa Marta, considered by some as not a part of the Andean system; and to the northwest lies the Atrato Valley between the low hills marking the southern limit of the Central American chain which extends down into the Isthmus of Darien and the northern limit of the Western Cordilleras. The Western and Central Cordilleras are much richer in ores than the Eastern.

The north central primary deposits include the districts of Remedios, Santa Rosa de Osos, Anorí Amalfi, and San Pedro.

The ores of these districts are generally of the familiar quartz-sulphide type. The surface ores are often a rusty brown quartz, locally called *colorado*. The sulphide is a pyrite in the unoxidized ores, with which appears often galena and blende. In some places the pyrite is replaced by arsenopyrite. The gold is very often visible as coarse scales and is of a fineness usually about 0.600 or over.

The ores of the western deposits on the Pacific side of the Cordilleras and the slope of the Atrato Valley are similar in type to the central deposits. The southern deposits, on the contrary, differ in character from the other two main groups. These ores are mainly blende with pyrite and galena, antimony replacing the arcenic of the northern deposits. They are auriferous silver ores in quartz and argentiferous gold ores in magnesite and calcite. The southern de-

posits include those in the neighborhood of Titiribi, Supia, Manizales, and Caramanta.

The principal mines in Antioquia are gold mines.

Prof. Henry W. Nichols, of the Field Columbian Museum, who made an examination of the Colombian ores collected for exhibit at the World's Columbian Exposition by Señor F. Pereira Gamba, a mining engineer of Bogota, says:

The ores of Colombia are of two classes, those occurring in quartz in fissure veins of the ordinary type, and those formed by segregation from the surrounding rock. The fissure vein deposits are those of North-Central Antioquia, and present no feature of especial interest. The other deposits, formed by segregation from the surrounding lavas, differ in character according to the nature of the material in which they occur. In all deposits of the second class, the prevailing sulphide is blende. Those in andesite and other lavas have a quartz gangue, and are of metasomatic origin. Some, if not all, are in brecciated zones, in which the fragments are both replaced by and cemented with the orebearing quartz. All stages of replacement may be traced in the specimens. The ores in the tuffs form the most interesting class. They differ much from the above-mentioned deposits, although the two kinds sometimes occur within a few miles of each other. The tuffs, formed of comminuted lavas, decompose very rapidly, especially under the influence of the hot, acid waters which accompany volcanic eruptions and often persist for many years after. The decay of the ferro-magnesian and lime-bearing minerals of the tuffs forms, as the gangue of these ores, sometimes dolomite and sometimes calcite. The veins are very narrow and irregular, one of the most important reaching a width of less than 2 inches. Often in place of a single vein there is a zone of branching dolomite or calcite threads in the tuff. These features are evidence of a deposit formed by a leaching of the surrounding tuff.

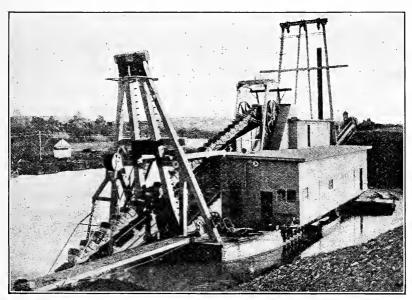
The great bulk of the gold mining in Colombia has been from secondary deposits. From these alluvial deposits—placers—came all the gold of the Indians and of the early Spaniards. There are no reliable statistics of the amount of gold produced by the Colombian mines in the early Spanish days, but even in these days, when we are accustomed to gold and silver production on a large scale, the bulk of gold with which the royal treasure ships of His Most Christian Majesty, sailing from the Spanish Main, carried to Spain would appear tremendous. It has been estimated that the mines of Colombia alone produced more gold during a single fifty years of Spanish occupancy than had been mined in all the world prior to the time of Columbus. Señor Vicente Restrepo, in his study of the subject, estimates that the province of Antioquia up to 1882 had produced \$252,000,000 in gold and silver. This is a conservative estimate and far below that of many other writers.

The methods were crude in the extreme, but with water abundant and labor cheap the results were great. Fray Pedro Simón gives a little picture of the alluvial placers at Remedios:

This is one of the richest territories man has discovered. From the beds of its creeks and brooks the Indians have gathered grains of gold as large as

grains of wheat or chickpeas and many even larger than hazelnuts. The city was so near the mines that everybody engaged in mining; and so large an amount of gold was gathered in a few days that the people soon quit working for it. Then negro slaves were bought and sent in gangs by the merchants of Cartagena, while the Indians occupied themselves in cultivating corn. As a result of this, in two years the few Spaniards who lived in Remedios had become the richest men in the Indies; some 20 who formed the chief part of the population owning more than 2,000 negro slaves; a week's labor of a single slave produced at least \$10 in gold, many found as much in one day, some \$30, some \$40, some \$100, and a negro upon one occasion obtained \$500 in a single day. For some time Capt. Diego de Ospina extracted \$2,500 a week, and he himself told me some time ago that he had paid the King, as a fifteenth part of the gold (the royal tax) he had mined, more than \$60,000.

This gold was found by the negroes and Indians, who extracted it in two ways; at first it was gold which they called the overflow of the veins and



A DREDGER AT WORK IN ANTIOQUIA DISTRICT, COLOMBIA.

These dredges have a capacity of 150 cubic yards of alluvial gravel per hour. Their operation is so economical that a yield of gold to the value of 15 cents per yard will not a profit of 30 to 60 per cent. A large part of the gold fields of Colombia are of such a character as to make these machines peculiarly adaptable for the development of the industry.

which was the outward sign of their existence; they offered then to seek for those veins, which they succeeded in finding at the sources of the streams they ascended, and the result in many places was the profit which we have mentioned.

The veins spoken of by Fray Pedro were elevated placers or beds of disintegrated mineral formed by the slow wearing away of the auriferous earth as the streams deepen their beds. They are called mines of aventadero and are much richer than the beds of manto.

Further on the excellent friar says:

I visited several of these mines in the year 1613, in particular one called Loma Rica. I saw negro women who by scratching up the earth with their

fingers at the doors of their houses and washing it obtained \$2 or \$3 in gold. In fact, everybody was loaded with it from the youngest to the oldest, so that it appeared as if the earth had made its last will and testament and divided its great wealth among all its children.

The alluvial deposits are of four kinds: First, deposits in the actual bed of running streams; second, low banks formed by the ancient bed of the stream; third, high banks or mines of aventadero, and, fourth, hill mines, situated in elevated plains above the level of streams and so placed by the upheaval of the land after the placer formation.

In practically all of these the deposits of gold rest upon a rock formation under layers more or less thick of sand, clay, and conglomerate.

The more recent alluvial deposits are in the sands of the numerous

rivers and brooks.

The alluvial gold of Colombia occurs in many forms. From fine dust passing through grains more or less laminated, rounded, angular, acicular, crystallized, and curled.

In Antioquia, as a rule, nuggets of any considerable size are rare, although they are occasionally found in weight up to 500 grams.

Señor VINCENTE RESTREPO, in his Study of the Gold and Silver Mines of Colombia, says that in Antioquia the forms of the crystals in which gold is found are:

The cube which is very rare.

The cubo-octahedron.

The octahedron, the form most frequently met with and subject to the most capricious irregularities, sometimes four of its faces appearing elongated, changing their triangular form into imperfect quadrilaterals and having the aspect of tablets, sometimes with surfaces prolonged and more or less concave terminating in an edge, again with hollow faces, which is very commonly the case in the octahedron, or the concave surfaces have disappeared, leaving only a shell in which the edges of the crystals form triangles.

The rhomboidal dodecahedron, rather uncommon.

The trapezohedron, after the octahedron the most common form.

Pentagonal dodecahedrons and tetrahedrons, occasionally encountered in half formed state.

A. Dufrénoy in his Traité de Minéralogie says that the crystals or crystallized points of gold are frequently found projecting out of the earth and that this is the case in no other country.

All the gold of Antioquia carries silver, but in quantities varying more than in any other section of the world. The gold of California, Colorado, Australia, South Africa, the Ural Mountains, Chile, and Canada rarely exceeds 15 per cent in silver. It averages far below this figure, in most cases below 5 per cent. In Antioquia placer gold carries from 3.5 to 36.1 per cent silver, and the quartz gold from 8.2 to 50 per cent silver.

The gold of the San Matias placer is 0.965 fine, that of the El Carmen is 0.634 fine. Between these two there is almost every degree of fineness from 0.930 down to 0.650. The Quiuria quartz gold is 0.919 and that of Sarral is only 0.500 fine, and there is the same variation between the other mines as with the placer deposits.

In the same mine and even in the same vein the combination will vary, so that the figures for the several mines can be taken as only approximate. The limit in some veins is twenty, thirty, and forty thousandths, and even more.

In the placers the combination is more constant, although occasionally the variation is considerable. For example, the gold of the Porce near Dos Bocas is 0.820, while that at Barbosa, on the same river, is 0.762.

One of the marked characteristics of Colombian gold is its brilliant vellow color.

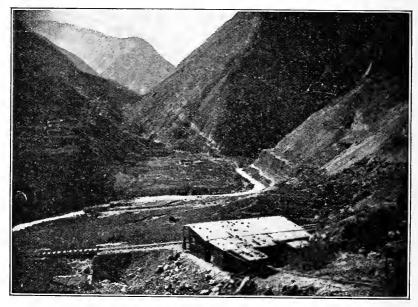
The secondary deposits of Colombia are by no means exhausted. There is still good and even rich pay dirt for many years to come, under the conditions of the largest hydraulic operations. But the great future for gold and silver mining in Colombia, as elsewhere, is in the primary quartz deposits. Placer mining the world over is more or less of a lottery, perhaps less a lottery in the Andes than in most other places, but still without its surprises for good or bad. Quartz mining, on the contrary, is more stable and the returns in the long run are much greater. What is needed in Colombia is more mining capital and better and more modern methods of operating.

The very name of Peru is synonymous with gold. The tale of the immense ransom of the ill-fated Atahualpa who, after having been taken prisoner by Pizarro and standing in the presence of his captor, reached up at arm's length along the walls of the room in which he was confined and offered to fill the room to the height marked with gold and all the remainder of the house with silver. The room was said to be 22 by 27 feet. It is computed that to fill the room in which Atahualpa was imprisoned would have taken over \$600,000,000 in gold. The Spaniards, however, did not wait for the Indians to bring in all the gold but killed the Emperor after only about \$20,000,000 had been collected. The remainder of the treasure which undoubtedly would have been delivered had Pizarro kept faith was buried or thrown into the rivers and lakes. The great chain of gold made in celebration of the birth of his son by Huayna Capac, and which was over 200 yards long and could scarcely be lifted by 200 men, was said to have been thrown into Lake Orcos near Cuzco.

The gold and silver bearing section of Peru covers an area over 1,000 miles long by an average of about 260 miles in width. It embraces nearly the whole of the Andean system with parts of the western and nearly all the eastern slope of the same.

The alluvial deposits are, with one exception, those of the Chuquicara River, all on the eastern side of the mountains. The quartz formations are on both sides and the summit. It must be remembered that the settled parts of Peru are on the western side of the mountains. This fact places the great placer deposits across the mountains from the centers of population, and, as a consequence, they have been less worked, and on the whole are less known than those of Colombia. This was the region from which the Incas drew their supplies.

The Pacific side of the Andes is rainless, but on the eastern side of the system there is an abundance of rain, and the streams are almost numberless. In no other part of the world is the present-day alluvial



IN THE MINING DISTRICT OF PERU.

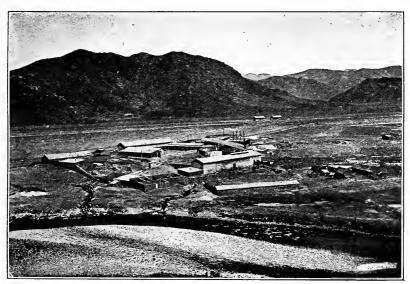
The richest mining region of the country is that inclosed by the two great branches of the longitudinal Andean Cordillera. Both of them contain an abundance of all classes of minerals. So free is nature in her gifts to Pern that instances are not infrequent where gold-mining companies are assisted in their operations by coal extracted from beds in close proximity to the deposits of precious metals.

deposit of gold so great as in Peru. In the wet season the rush of waters down almost every mountain stream bring great quantities of gold-bearing sand and gravel. But few of these are worked, and these in the most primitive method. The one in common use is, during the time of low water, at a suitable place to pave the river bed with stones of considerable size set on edge, with large spaces between. These act as riffles when the river rises, collecting quantities of the richer gold-bearing sand. When the water falls the deposit is collected and panned and the stones again set in place for the next year's flood.

The deposits worked by the Incas were undoubtedly the ancient river and lake beds which have been thrown up to their present posi-

tion by the latest earth upheavals. There are thousands of these beds in Peru, and the deposits of auriferous gravel contained in them is enormous. They have been scarcely scratched either by the Indians, the Spaniards, or in later times. Some of them are of immense richness and nearly all contain good pay dirt. The usual method employed, where any work is done, is to build a dirt conduit, carried from some stream with fall sufficient to gain a headway—water is everywhere abundant—and from this conduit or ditch, lower down but with the necessary height above the stream bed, to open sluices into the river bed. Water is then let into the conduit and rushes down the sluices, washing away the earth and leaving the gold-bearing gravel, which is collected and panned.

In Puno, the southeastern department of Peru bordering on Bolivia, occur immense secondary deposits of a peculiar character. These lie



A MINING PROPERTY IN PERU, NEAR LAKE TITICACA.

in the provinces of Sandia and Carabaya. Raimond, in his *Minas de Oro del Perú*, says that the mines of Carabaya are without doubt the oldest known in Peru, and that there is preserved the tradition of the finding in the placers at Inahuaya of a great nugget shaped like a horse's head and weighing over 100 pounds, and of another great nugget, shaped like a man's head, found in 1556 in a crevice in the rocks.

The mineral locations of the Province of Sandia, according to Raimondi, are Poto, Ananea, San Juan del Oro, Aporoma, Challuma, and the river Huari-huari; and of the Province of Carabaya are Ollachea, Ayapata, Juata, Coasa, and Usicayos. In nearly all of

these districts are found evidences of ancient operations, although scarcely any of them are at present worked.

The reason for this is apparent. The native methods require almost unlimited quantities of water for sluicing down hillsides by the natural rush of the water. In Sandia and Carabaya water, while in most places plentiful enough for ordinary hydraulic purposes, occurs in quantities far too scanty for practical use according to the native methods. On this account the whole territory lies practically virgin. The gold is found in great beds, 10 to 100 feet or more in thickness and covering areas leagues in extent. The peculiarity of the formation is that the metal is found more or less evenly distributed throughout the mass of the bed from top to bottom. The earth, according to Raimond, is usually ash-colored and stones are rough broken and not waterworn.

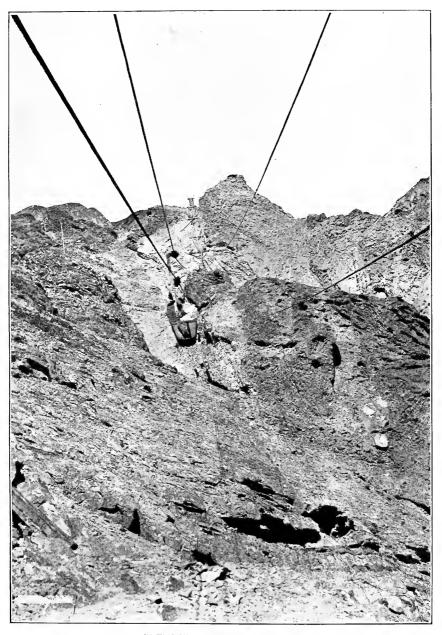
In speaking of the beds at Poto, which stretch from the snow mountains of Comuni and Ananea to the town of Poto, some 9 miles in extent, he says:

Examining the auriferous ground at Poto various angular stones are seen which show not to have been worn by water and create the impression that the detritus has been thrown down in the midst of a great mud bank. Another observation in support of this hypothesis we have in the manner in which the gold is presented, which instead of being found in the lower part of the alluvial deposit is encountered disseminated throughout all the mass from the surface to the bottom, except in the places where a marly earth occurs in which the precious metal is not found.

Mr. C. Reginald Enock, an English mining engineer, in his work entitled "The Andes and the Amazon," devotes considerable attention to these deposits. He says:

In the south of Peru there is an auriferous region which is probably one of the most important in the world, and it is remarkable that it is so little known elsewhere. This is the famous region of Sandia and Carabaya, provinces of the Department of Puno, and which I have spoken of elsewhere. The remarkable feature of this region is its geological and topographical formation and the considerable elevation at which portions of it are situated-spanning the main range of the Andes 15,000 to 17,000 feet altitude above sea level. Here are great deposits of gold-bearing material in the form of huge banks miles in extent. These are perhaps glacial deposits—moraines—and in some instances they form escarpments whose upper extremities are contiguous to, or rather are thrown off from, the very summits of the perpetual snow-capped range. One of these enormous banks, more than 2 leagues in length, has been worked at one end from time immemorial, and at present the material is being treated by hydraulic methods with "monitors." A theoretical calculation has been made of the gold contained in this moraine, if such it be, which results in a sum greater than the total value which has come out of California since the discovery of that country. This is the great bank of Poto.

There is a series of these remarkable banks, and lower down and forming the plains at the immediate base of the snow-capped peaks of the Andes are extensive plains, or *pampas*, whose material is a gold-bearing soil. Certain areas might be susceptible to profitable working by means of dredging or other



IN THE MINING DISTRICT OF PERU.

The extreme ruggedness of the mining country often necessitates the use of traveling buckets to carry the ore from mine to mill.

well-known methods. These plains are at an elevation of about 15,000 to 16,000 feet, and the climate is not excessively rigorous except at certain seasons. I have slept in the open air on several occasions in this neighborhood, even at a higher elevation, and have experienced little inconvenience from the cold.

These auriferous earths, at any rate in some cases, are of glacial formation. The stones they contain do not generally show the effect of attrition, such as in the deposits of waterworn gravel which occur at a much lower elevation in the same district, but are generally angular and rest in a position which shows that they have been deposited in quiet waters and have not traveled far from their place of origin to their final resting place. The mass of the material is a marly and ashen-hued earth; the stones or fragments of rock are of slate and quartz, the same material as the mountains upon which they rest. All along these extensive gold-bearing pampas are strewn blocks, generally small, of white quartz, which are very poticeable, as they are washed clean by the frequent rains and shine out from the gray soil of the plains.

Alternative to the supposition of the glacial formation of these enormous auriferous deposits in this region is the assumption that they are the result of action caused by the bursting of enormous lakes which had this sedimentary gold-bearing material below their waters. And this action has undoubtedly taken place in some cases, as the topographical conditions show. The waters of these former lakes seem to have forced a violent passage to the lower levels, destroying the rocks and carrying down the débris. The effect of such huge bodies of water released from considerable heights and descending the slopes of the Andes can be partly imagined, and the vast quantities of material which have been moved and its general disposition bears out this idea in a striking way.

The gold in Puno is generally about 0.970 fine, carrying silver about 0.025, with copper and iron in small proportions.

Almost everywhere throughout the Andean system in Peru and on both the eastern and western slopes are found primary gold deposits. These are somewhat similar to the quartz formations of Colombia, although the gold is ordinarily finer. The formation most usual is ferruginous quartz. The silver-bearing lodes of Peru are more apt to be distinct from the gold-bearing than is the case in Colombia.

OFFEE derives its name from the city of Kaffa, Abyssinia, in which country, it is believed, the coffee tree originated. Its botanical name is *Coffea arabica*, as Arabia was the first country into which it was extensively introduced. If left to grow in its natural state, a coffee plant may grow into a shrub 14 to 18 feet high, having then a long and slender trunk without branches



COFFEE TREE AND BERRIES.

The coffee tree, with its dark-red berries contrasted with the green foliage, is a beautiful growth. When in its natural state it often reaches a height of 14 or 18 feet, but under cultivation is not permitted to grow above 6 or 8 feet high. Its roots are thin, but numerous, and reach deep into the earth, a central root reaching straight down to a depth proportionate to the height of the tree.

on the lower part. The plant has thin and numerous roots, which grow deep in the earth, having one central root going straight down, the length of which depends upon the height attained by the plant. When cultivated, however, the shrub is generally not allowed to grow beyond 6 feet in poor sandy soil and 8 in rich soil. This restriction is imposed on the coffee tree because, when the plant grows over that height, the difficulties for cultivating it increase.

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The leaves are at first of a bright green color, turning into the olive shade when they are full grown. Healthy coffee trees produce, in the spring, in the axilla of each leaf, from 12 to 16 buds, which soon bloom and have an exquisite perfume. The beauty of a coffee plantation is fleeting, as, on a plantation, one may see the trees in full blossom and two days later the ground may be covered with white flowers. Two or three efflorescences occur before the buds become completely ripe. The flowers become dark and wither in two or three days. Dry weather is better for the plants during the first days, but when the buds are becoming consistent the water washes the petals and discloses numerous pistils or germs of fruits on which all depends.



PICKING COFFEE IN BRAZIL.

The coffee harvest begins, as a rule, in May, and the largest crops are harvested by September. To preserve the health of the pickers, the work is done in dry weather as far as possible. The picking is by hand, the berries being deposited in wicker baskets, which, when filled, are conveyed to the mill. In modern plantations the berries are conveyed to the curing house by running water through galvanized-iron spouting.

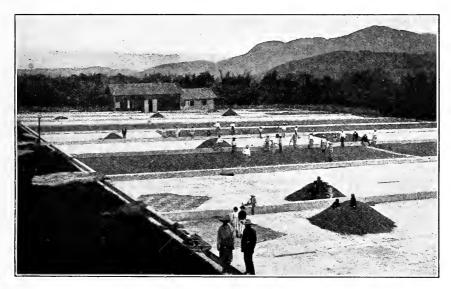
Experience teaches that, when the pistils look fresh and have whitish tips, it may be expected that the crop will be approximately the same as the number of flowers, but when a black spot is noticed the planter may be sure that he has lost his crop. This happens generally when the plant is not sufficiently strong or is due to an inopportune rainfall.

It is when the leaves fall that there issue from the small stems groups of seeds at first yellow and coarse to the touch. When they ripen they begin to redden until they become the coffee berries. The bean in its natural state is convex on the one side and flat on the

COFFEE. 857

other. There are two seeds in the ripe berry, side by side, each one covered by a delicate silver-colored skin; then comes a cartilaginous membrane of rough consistence, and afterwards the pulp, which is mucilaginous, saccharine, and sometimes agglutinated, the outer part being covered by the outer skin.

The color and size of the berries differ very much, as is demonstrated in a table published by Arnold, which represents the number of grains that can be contained in a small measure capable of holding 50 grams of water. It contains 187 of the dark, fine Java coffee, 203 of Costa Rica, 207 of the good Guatemalan, 210 of the good Caracas, 213 of the Santos, 217 of Mocha, 236 of Rio, 248 of Manila, 313 of western Africa. In other words, Java beans are the largest, as



COFFEE DRYING IN COSTA RICA.

Coffee drying is accomplished either by the dry or the wet process. The latter is used only with improved and complicated machinery, which frees the beans from all extraneous matter, after which they are dried in the sun or by artificial heat. The dry method consists in exposing to the sun's rays layers of berries 5 or 6 inches deep on platforms or terraced floors called barbeques. This process continues for three weeks, the berries being protected from the rain and dew during this period. When finally cured the husks are separated from the seeds by means of a hulling mill.

fewer of them enter into the measure, and the scale diminishes until it reaches western Africa coffee, of which 313 beans fill the same measure that will contain 187 of Java.

The same author maintains that coffee becomes better as it ages. Java coffee of superior quality is not exported until six or seven years after it has been picked. As it becomes drier, when it is roasted, it produces a richer cream.

The coffee bean is prepared by separating it from the pulp which surrounds it by means of water and fermentation. The hard shell is removed by mechanical processes. Thus is produced the coffee bean which is sold in the market.

A mass of fanciful romance, tradition, and legend envelops the earliest historical accounts of coffee, but it seems safe to accept the statement of Arabian writers that a pious Mohammedan, who had found the beverage made from the bean useful in warding off drowsiness during prayers, introduced it into the city of Yemen, southern Arabia, in 875 A. D.; that is, about a thousand years ago. From Arabia it spread through Asia Minor and northern Africa, but appears not to have reached Europe, via Constantinople, before the beginning of the sixteenth century. The first coffeehouse was opened in London in 1652. Coffee was introduced into Paris about the



BENEFICIO DE CAFE, COSTA RICA.

The illustration shows in detail the drying beds in use on modern plantations. In the evening the layers of coffee are raked into piles, which are covered over for protection from the dew.

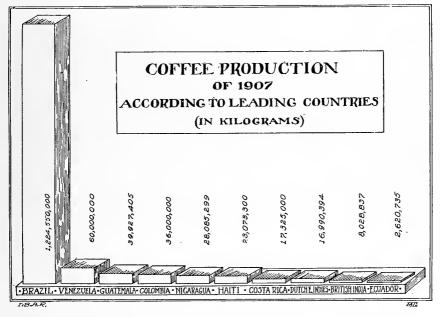
same time, or, perhaps, a little later. Coffee drinking in both England and France became extremely popular and well-nigh universal.

The practice of coffee drinking, both in Mohammedan and Christian countries, encountered for a long time the bitter disfavor and opposition of sovereigns and potentates—in Mohammedan lands because the custom kept people away from religious services in the mosques, and in Christian states because coffee houses were regarded as rendezvous for sedition and the hatching of conspiracies against governments. Chronic coffee drinkers, therefore, were punished severely with flogging and imprisonment; but these drastic measures having no appreciable effect, heavy taxes were imposed upon coffee, which proved to be a profitable source of revenue.

COFFEE. 859

The first coffee shrubs grown in Europe were carefully raised and studied in conservatories by French and Dutch scientists in Paris and Amsterdam. The energetic Dutch were quick to perceive the economic value and possibilities of coffee, and in 1690 the first tree was transported from Mocha, Arabia, to Batavia, Java, by one Nicholas Witsen, of Amsterdam. This tree flourished in its new home, and, as the climate, geographical position, and soil of Java and the adjoining Dutch Indies proved favorable to coffee raising, the plant multiplied with wonderful rapidity in those far-off oriental possessions of Holland, and the foundation was thus laid for one of the principal sources of her commercial prosperity.

Romantic stories are attached to the introduction of coffee into the New World. It is, for example, asserted that De Clieux, a Norman

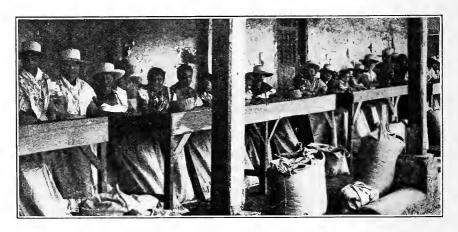


gentleman and naval lieutenant, sailed in 1723 from France for Martinique, in the West Indies, and took with him a coffee tree intrusted to his care by a physician. The voyage was long and tempestuous, but De Clieux shared his scanty portion of drinking water with the plant, which, though weak, upon its arrival in Martinique recovered under De Clieux's watchful care. From this tree, it is said, came all the coffee shrubs in the island, which more than supplied all the coffee required for the consumption of the whole of France.

According to Rossignon, the ancestor of all the coffee trees in Brazil was grown in the Jardin des Plantes of Paris, but other authorities assert that a Portuguese named João Alberto Castello Branco planted in 1760, in Rio de Janeiro, a coffee bush originally brought from Goa.

Coffee plantations were started by the French in Réunion, Mauritius, and Madagascar in the eighteenth century, and by the Spaniards in Santo Domingo, Porto Rico, Cuba, and the Philippines about the middle of the same century. For some time the West Indies took the lead in coffee production, from which they have strangely declined. Java eventually outstripped them, to be in turn outstripped by Brazil, which at present supplies more than three-fourths of the world's coffee production.

The geographical distribution of coffee lies within a subtropical and tropical zone comprised between 25° north and 25° south of the equator, and between longitude 160° west and longitude 150° east of Greenwich. The extreme northern and southern limits of this zone are thus about 3,500 miles apart, and the distance between the far-

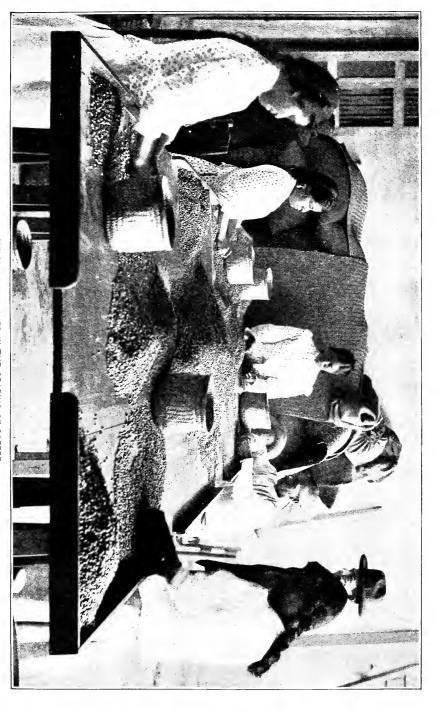


SORTING COFFEE IN A MILL, COSTA RICA.

When the crop has been harvested and cured, many laborers are employed in selecting the good from the defective beans, the former to be exported and the latter to be sold for domestic consumption.

thest western and eastern limits, over 21,000 miles. Coffee grows, either in its wild or cultivated state, in Mexico, Central America, the West Indies, northern South America, Brazil, northern Africa, Arabia, various portions of the west and east coasts of Africa, the Hawaiian Islands, British and Dutch India, and the Philippines. Its successful production is, however, confined to comparatively contracted areas, as, for example, in Brazil, where coffee plantations are mainly confined to the four Atlantic States of São Paulo, Minas Geraes, Rio de Janeiro, and Espiritu Santo, whose combined areas constitute only about one-eighth of the vast domain of Brazil.

The principal coffee-producing countries of the world, in the order of their importance, are Brazil, Venezuela, Guatemala, Colombia, Nicaragua, Haiti, Costa Rico, Dutch East Indies, and British India. The chief coffee importing and consuming countries are the United

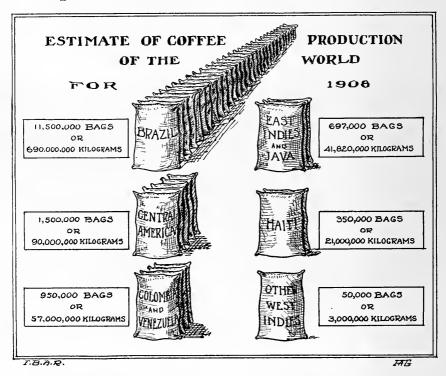


MEXICANS EMPLOYED IN THE GRADING OF COFFEE.

After coffee has been cleaned and shelled, much skill is required in assorting the beans, in order to classify them according to size and grade. The picture illustrates a characteristic scene in a Mexican coffee planter's establishment.

States, Germany, France, Belgium, Austria-Hungary, Turkey, Holland, and the United Kingdom. The last-named country is remarkable for the great quantities of coffee which it reexports to all parts of the world, reexporting, for instance, in 1904 two-thirds of the 118,186,000 pounds of coffee which it had imported in that year.

Statistics show that the total quantity of coffee delivered in the United States from all sources last year, amounted to 929,754,540 pounds, of which there were imported from Brazil 753,840,648 pounds, or somewhat over 81 per cent, which was about the same proportion as during 1906–7. The deliveries in Europe have remained stationary



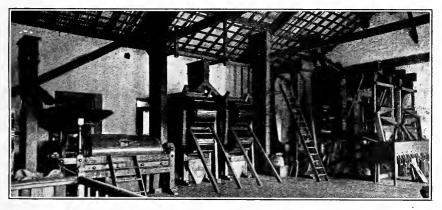
for the past two years, or about 1,386,000,000 pounds annually. Thus, the total consumption for Europe and America is approximately 2,310,000,000 pounds annually.

With the ever-increasing consumption of coffee in the world, a bewildering variety of beans has been evolved, but, among the most popular and widely used are the Java, Sumatra, Mocha, Rio, Maracaibo, and La Guaira. There are many substitutes for, and adulterations of, coffee, and some authorities assert that in the United States, for example, very little true Java and Mocha coffee is sold, owing to the skill with which many planters and dealers have been able to approximate in color, appearance, and aroma the Dutch InCOFFEE. 863

dian and the Arabian varieties in the preparation, for the world's consumption, of their own indigenous coffees.

The successful cultivation of the coffee bush requires an expert knowledge which can be gained only by experience and by experiment. The plant flourishes best in well-watered and drained regions, in a hot, moist climate, at considerable elevation, in a rich soil. Other conditions being favorable, it can withstand occasional light frosts. The rainfall should be 75 to 150 inches per annum, well distributed over all the seasons. Irrigation, when required, as in certain portions of Arabia and Mexico, must be intermittent, so as to avoid a water-soaked soil. The soil must be porous, as an impervious stratum within reach of the taproot (which is 30 inches long) is fatal, for no sooner does the taproot reach it than the tree falls off and dies.

The question of shade is a highly important factor in establishing a coffee plantation, more shade for the young coffee plants being re-



A MODERN PLANT FOR THE CLEANING AND POLISHING OF COFFEE,

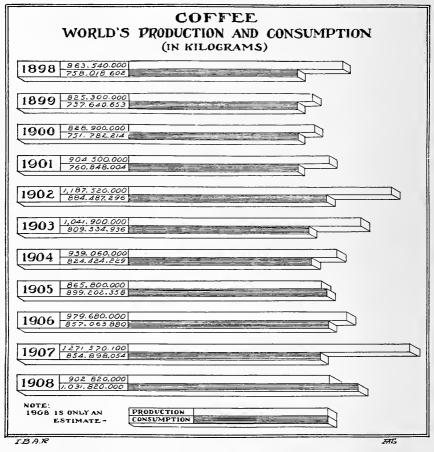
An establishment of this nature is found on every large plantation in coffee-producing countries. Here the coffee bean, which has previously been stripped of its pulpy covering and dried, has all other extraneous matter removed, and is cleaned and polished.

quired in hot lowlands near the coast than in sheltered elevated regions between 2,000 and 3,000 feet above sea level. When the elevation is as high as 5,000 feet, as in certain parts of Mexico, Central America, Venezuela, and Brazil, the plants require artificial shelter against cold winds from the north.

The kind of shade employed should receive careful attention and study. Such shrubs as bananas, with their long broad leaves, should be avoided for shade purposes, as experience teaches that they alternately expose the coffee plants to too much shade or to too much scorching by the sun.

The young coffee plants are obtained in three ways: (1) By using the seedlings that grow up spontaneously, (2) by sowing the seeds in nurseries and afterwards transplanting, (3) by sowing them in the places they are to occupy finally.

The first method, as traditionally practiced in Porto Rico, is thoroughly vicious. The plants steadily deteriorate, and yield poorer and poorer results with each year's successive natural sowing. The second method of sowing in nurseries and afterwards transplanting is employed, for the sake of economy and expedition, in regions where the rainfall is not sufficient throughout the year to keep the young plants alive. This method requires the utmost care in the selection of the best seeds. The care exercised by the German planters



in Latin-American coffee regions, in this and all other details relating to coffee cultivation, accounts for their exceptional success in obtaining the highest profitable results. The third method of planting the seeds directly in the open field at once avoids the labor of transplanting, the risk of injury to the roots, and the setback which every plant experiences in being transferred to a new site, but is practicable only where the rainfall is sufficent at all seasons of the year for the plant to thrive.

COFFEE. 865

The dressing and preparation of the coffee beans for the world's markets require special expertness and long experience. The berries should not be gathered until they have assumed a dark red color, verging on brown. Before it can be sold, the coffee has to be freed from the various envelopes that surround the two beans. This is done in two ways—the dry and the wet. The former is the old way, used in Arabia and America, where the planters are too poor to use improved machinery. It involves a complicated process of exposing the berries in layers, 5 or 6 inches deep, to the sun's rays, for about



LOADING COFFEE AT SANTOS, BRAZIL.

Santos is the seaport of the State of São Paulo, Brazil, and the largest coffee-exporting center in the world. For the year ending June 30, 1908, the shipments of this article reached the enormous total of 8,456,000 bags of 132 pounds each, or a total of 1,116,192,000 pounds. The illustration shows the method of transferring the coffee from the warehouse to the wharf, each being stamped with the name of the shipper as the stevedore files past the entrance.

three weeks, after which the husks can be removed from the beans in a mill. The dry method is really the best for producing finely flavored coffee, but is inapplicable when applied to large quantities in tropical countries.

The wet way, or "West India preparation," requires expensive machinery, composed of vats filled with water, and a variety of apparatus for removing the lighter and worthless berries, loosening the pulp from the serviceable ones, cleaning the beans, and drying them thoroughly in the sun. Roasting the beans is delayed as long as possible, as unroasted coffee is said to improve with age. The process of roasting is a delicate and difficult operation, as thirty seconds too much or too little may mean a spoiled roast. To preserve their aroma, roasted coffee beans should be very carefully packed.

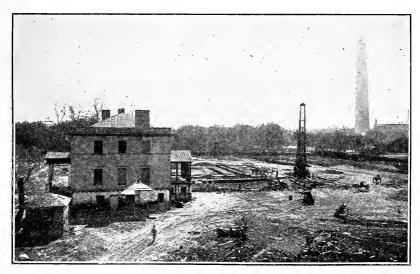
It is not easy to grasp the tremendous production and consumption of coffee throughout the world. In 1904, according to the special monograph on "The World's Production and Consumption of Coffee," prepared by the Bureau of Statistics, United States Department of Commerce and Labor, the world consumed 2,299,000,000 pounds. The production of coffee was, for the same year, 3,065,932,000 pounds. As stated elsewhere in this article, Brazil leads by producing more than three-fourths of the world's entire coffee production. The United States, on the other hand, has, for many years, been the chief coffee consumer, her consumption in 1907 being 985,000,000 pounds, or, virtually one-half of the total for the entire world. She is followed by Germany, France, Austria-Hungary, Belgium, and Holland, while the United Kingdom, whose penchant is tea drinking, consumes annually only about 30,000,000 pounds of coffee.

Coffee drinking throughout the world appears to be increasing at such a tremendous rate annually that the most expert authorities estimate that, by 1950, the world's visible supply of stocks of coffee left over from one year to another, will have disappeared entirely—in other words, that Brazil and other coffee-producing countries will be wholly unable fully to supply the world's annual demand. This, however, takes out of account the possibility that a sufficient area of new regions will be devoted to coffee cultivation, to overcome the deficiency. That this is quite possible is shown by the fact that the Philippine Islands, Cuba, Porto Rico, Santo Domingo, and Hawaii are excellently adapted for coffee culture, which, in those regions, was a fairly prosperous industry in the middle of the 18th century.



PROGRESS OF CONSTRUC-TION ON THE PAN-AMERI-CAN BUREAU BUILDING

HE building for the Bureau is located on land which was formerly a peninsula extending out into the Potomac River, on which stood the historic Van Ness mansion, built in 1817. This mansion was the residence of Marcia Burns Van Ness, daughter of David Burns, who was one of the original settlers of



the territory now occupied by the city of Washington. The adjoining water area has been in process of filling by the Government for

the last twenty years, so that the shore of the Potomac River is now a half mile distant. The reclaimed area has been converted into a beautiful public park.

One of the first problems which confronted the architects in preparing the working plans for the building was the question of foundations. In order to determine the character of the subsoil at the site, pits were excavated at several places, and a record kept of the different strata encountered. After a study of these data together with the estimated weight of the superstructure, the architects concluded that a structure resting on concrete piles would possess many advan-

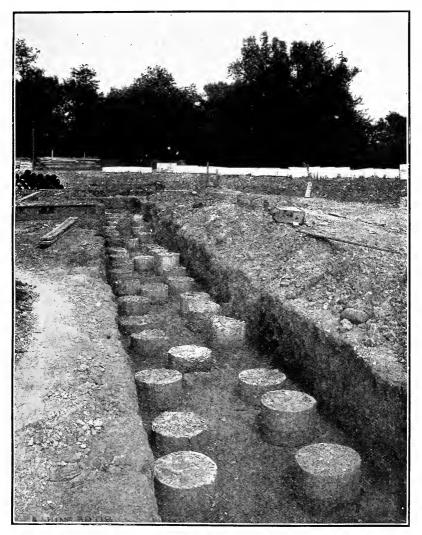


NEW BUILDING CONSTRUCTION. VIEW TAKEN JUNE 30, 1908.

tages over the ordinary spread footings, especially as there were very heavy concentrated loads imposed at certain points. It was found that for a depth of 8 to 10 feet below the surface the clay subsoil was saturated with water, which would make the excavation for the basement difficult and costly. In view of the conditions, a preliminary contract was let for laying a terra-cotta drainpipe on four sides of the site and at a distance of 25 feet from the proposed building. The pipes were brought together in a manhole at the southeast corner and then carried to an outlet in the municipal sewer in Seventeenth street. The pipe around the building was laid with the lower half of joints cemented and the upper half left open for the infiltration of

ground water. The pipes were laid in a bed of gravel and the trench filled to the surface of ground with broken stone and tile.

This drain has served the purposes for which it was intended admirably, as subsequent excavation for the basement of the building

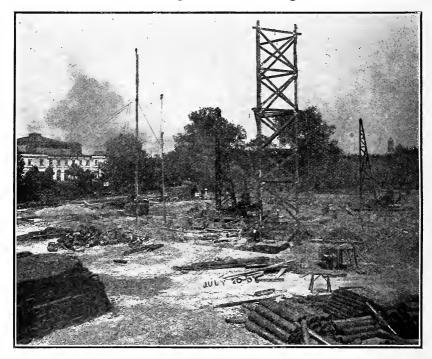


VIEW TAKEN JUNE 30, 1908, SHOWING THE CONCRETE PILE FOUNDATION ON WHICH THE STRUCTURE RESTS.

was made in practically dry earth. This drain not only takes care of the ground water, but intercepts the surface water, which would otherwise reach the excavation. The rain-water leaders from the building and the surface-drainage system for roadways and walks will eventually be connected to these drains.

On March 27, 1908, proposals for the construction of the building were received from 12 of the foremost building contractors in the United States and opened at the Bureau offices. After careful consideration of the various proposals the proposition offered by the Norcross Brothers Company was deemed to possess advantages over any other, and the contract was awarded to that company, the contract being signed April 1, 1908.

Owing to the depression in the building trades during the winter of 1907-8 the Bureau was enabled to make a very advantageous contract. The architects had figured that to bring the cost of the build-

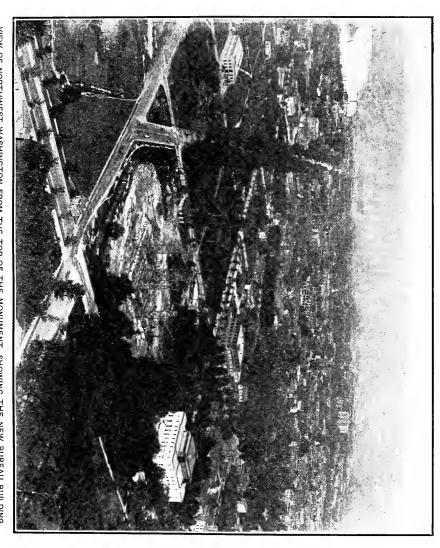


VIEW TAKEN JULY 20, 1908.

ing within the sum allotted they would be obliged to use stucco on the exterior walls, but the alternative proposals received for a marble exterior were in some cases considerably below the estimated cost of a stucco exterior. The Bureau is therefore to be congratulated on being enabled to construct this monumental building of enduring white marble.

Ground was broken at the building site on April 13, 1908; meanwhile orders had been issued by the contractor for the delivery of the materials of construction.

The requisite excavation having been completed, the driving of concrete piles was commenced at the northeast corner of the building

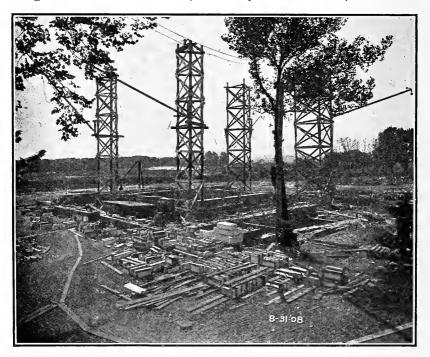


VIEW OF NORTHWEST WASHINGTON FROM THE TOP OF THE MONUMENT, SHOWING THE NEW BUREAU BUILDING UNDER CONSTRUCTION IN THE FOREGROUND.

on April 24, 1908, and proceeded day and night, in order to have the foundations ready for the corner-stone laying, which was to take place May 11, 1908.

By unceasing labor on the part of the Director of the Bureau and his staff, the contractor and his lieutenants, and the different committees the substructure for the corner stone was built and stands were erected for the accommodation of 4,000 persons, invited to witness the ceremonies attending the laying of the corner stone.

On the eventful day every detail was in readiness; a party consisting of President Roosevelt, Secretary of State Root, Ambassador

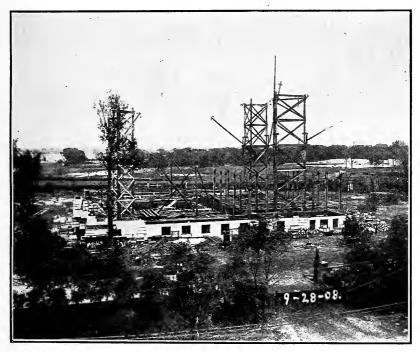


VIEW TAKEN AUGUST 31, 1908.

Nabuco, Cardinal Gibbons, Mr. Andrew Carnecie, Bishop Cranston, and Director John Barrett ascended the platform surrounding the corner stone, and each in turn spread the mortar on which the corner stone was to rest with a silver trowel. The stone was then swung in place by means of a boom derrick rigged to an historic old tree, which was convenient for the purpose; the stone was then gently lowered on its permanent bed.

Upon the conclusion of the ceremonies attending the corner-stone laying, the work of driving piles proceeded, and was completed July 25, 1908. The concrete piles, 1,194 in number, range in length from 18 to 31 feet, and are spaced generally 3 feet on centers under all walls. They are 8 inches in diameter at point and 20 inches at butt.

The piles are made in the following manner: A steel core, made of three leaves 32 feet in length, is spread by means of suitable cams in contact with collars on the center spindle of core. On the steel core thus expanded a sheet-metal shell is drawn in overlapping sections the full length of core; a point or boot is then placed over the lower or point end. The pile is then driven into the earth by means of a steam pile driver, with a 3,000-pound hammer falling 30 inches. A solid oak block placed on top of the steel core cushions the shock of the blow. When the pile has been driven to the requisite depth, the cams are loosened, and, as the core is pulled, the leaves collapse, per-



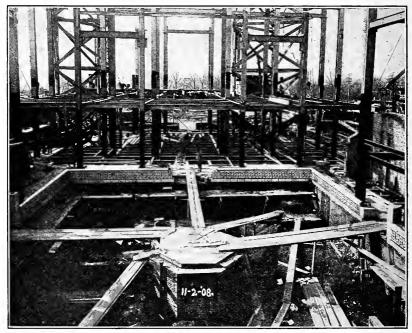
VIEW TAKEN SEPTEMBER 28, 1908.

mitting the sheet-iron shell to remain in the ground; this shell is then filled with wet concrete, mixed in the proportion of one part Portland cement, two parts sand, and four parts $\frac{3}{4}$ -inch broken stone:

After the concrete has hardened, the tops of piles are cut off at the desired level, and the footings, made of concrete, reenforced with steel rods, are placed over the tops of the piles 3 feet 6 inches thick and of various widths. Especial care was taken to insure the stability of the foundations, both for the walls and for the column bearings under the Assembly Hall, at rear of building, where the greatest weights are imposed. In addition to the reenforced footings over the piles steel grillage beams are placed under all columns and

anchor bolts bedded deep in the concrete to hold the steel columns in place. The consensus of opinion of engineers and architects is that this foundation is the most substantial ever constructed in Washington.

In order to facilitate the handling of materials entering into the construction, four tower derricks were erected inside the building, and so located that booms swinging from the corner posts will command every part of the building. These derricks are each operated by a powerful electric hoisting engine, using electric current furnished by the local electric power company. The use of electricity instead of steam will tend to greater comfort and cleanliness in the erection



VIEW TAKEN NOVEMBER 2, 1908.

of the building. There are also two stiff-leg derricks located outside the building, operated by steam, for handling materials from wagons and stacking same within reach of the tower derricks before mentioned.

A Smith mixer of 1 cubic yard capacity was used for mixing all concrete.

All cement and structural steel is subjected to rigid inspection and tests at the mills where manufactured, and all materials and workmanship going into the building are subjected to rigid inspection.

The marble used on the exterior walls is quarried, dressed, and polished at the contractor's works in the State of Georgia, and when received at the building is ready to set in place on the walls.

The masonry construction has now reached a height halfway between the first and second floors, except in the rear, which has been left down during the erection of the heavy steel work.

The Assembly Hall section in the rear of the building is practically steel-frame construction. The supports consist of 24 steel columns extending from the basement to roof, and tied together at panel points by means of heavy plate girders, into which the floor beams are framed.

Practically all the columns in this section have been erected, together with the framing for first and second floors.

The steel girders and beams for the balance of the first floor have been set, also the columns around patio.



A RAPID GLANCE OVER BRAZIL :: ::

An extract from the address delivered before the Sixteenth National Irrigation Congress by L. Baeta Neves, Mining and Civil Engineer, Brazilian Delegate.

RAZIL, whose green-yellow flag you can see there, having, on a blue center, in white stars, the Southern Cross, is the country of liberty. It is a friend-brother of the United States, and lives in the most cordial relation with all the civilized nations.

The United States of Brazil, as you well know, being one of the



MR. L. BAETA NEVES, MINING AND CIVIL ENGINEER, BRAZILIAN DELEGATE TO THE SIXTEENTH NATIONAL IRRIGATION CONGRESS.

greatest countries of the world, constitutes about half the total surface of South America. It absolutely represents the largest territorial extension of the globe, that under the same flag, makes a harmonious and homogenous whole, a single nation, where all over the same language is heard, the same people are met, without difference of habits and customs, with the same spirit of nationality.

In his address delivered before the Spanish Club of Yale University, on the 15th of May, this year, Dr. Joaquim Nabuco, Ambassador of Brazil to your country, the great friend of American people, spoke about this spirit of nation-

ality, that "grew there, as here, from very early times," and has maintained the unity of the country.

We have a national type resulting from the amalgamation of Portuguese, African, and American Indian, without any physical or

intellectual inferiority, capable of great labor, tenacious of purpose, with great depth of affection.

Notwithstanding the influence of the language of foreign peoples who have cooperated with us in the works of our civilization, we have unity of language. We speak Portuguese, without distinction of region, in all parts of the country—on the seaside, in the center, from south to north, wherever civilized man has penetrated. Brazilian people live in a perfect community of ideas, united by the same religious sentiment. Brazil is a Catholic country, but the religion is separated from the state, and the laws guarantee the most complete religious liberty to the people.

Living among Brazilian people are principally Portuguese, Italians, Spaniards, French, Anglo-Saxons, Poles, and Syrians, who find in the country favorable conditions for the highest development, thanks to the advantage of its splendid climate and fertile lands.

The population has doubled every thirty years, and now is about 22,000,000 inhabitants. More than half of this population consists of whites.

"For men as well as for plants," said ELISEE RECLUS, "Brazil is the 'promised land.' There, more than anywhere on the earth, humanity, represented by whites, Indians, and negroes, understand one another, having for all brotherly feelings."

The eminent writer, Claude d'Albeville, said: "Nothing can be compared with the beauty and delight of Brazil, with its fecundity and abundance of all things that man can imagine and desire, not only for the satisfaction and comfort of the body concerning the temperature of the air and delightfulness of the place, but also the acquisition of wealth. We do not know the rigors of the seasons; we have not extremes of temperature, but a mild climate all the year."

In the equatorial region, where temperature increases a little more during the day, the mornings and nights are rendered delightfully cool by the ocean breezes.

In certain northern States, in spite of the irregular occurrence of the rains and periodical drought, men's labor is amply rewarded and nature provides means of sustenance in dry seasons.

Nevertheless the effects of drought can be perfectly avoided, and the Government is considering the construction of large reservoirs to store water in wet seasons for irrigation. The soil is of extraordinary fertility, and lacks only sufficient humidity to render it very productive.

Without seeing, nobody can believe what happens in that zone; a light rain falling on a parched and thirsty sandy soil, in a very short time, from night to morning, makes it like a green carpet of grass, giving to the land a most pleasant aspect.

Recently I took a trip to Ceara, the State that has suffered most the effects of the drought, and I can assure you that if it had not been for the small quantity of water flowing yet after the last rain, in several valleys crossed by the Baturite Railway, I could not have had any impression of the dryness of the region, for everything was green and flourishing.

It can be said that in Brazil it is always spring, in both the dry and wet seasons.

Our climate average is excellent. We have no diseases peculiar to Brazil and all our sanitary problems can be easily solved. To verify this truth, expressed by many thinking and professional men, we can mention Rio de Janeiro. This city is now completely transformed, having all modern conveniences; it has no more yellow fever that some time ago was a dreaded enemy. Sanitary measures and recent improvements have restored its primitive healthfulness, giving it an artistic and modern garb that makes it the equal of the most beautiful capitals of the world. Because of its natural charm and beauty, its bay is generally considered the finest on the earth. Its attractiveness has been greatly increased by the recent improvements.

Brazil is not so mountainous a country as it is almost always represented on the maps. Its widest part, principally on the north, consists of an immense plateau, not more than 1,000 to 4,000 feet above sea level, full of great depressions where flow numerous rivers. This plateau binds together the Amazonic and Prata regions.

The principal ranges of mountains are farther in the south, extending near the Atlantic coast. They separate from the first regions a third one, called the Oriental region.

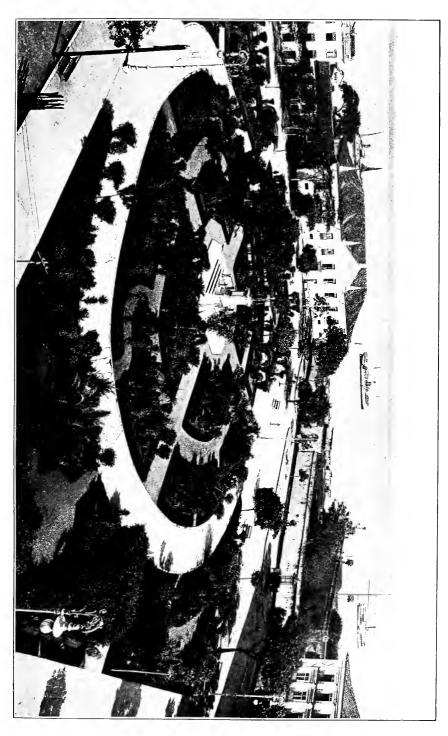
As you know, in the Amazonic region flows the Amazon River, the greatest river in the world, having more than 32,000 miles of navigable water, if there are added to it its most important tributaries. This region is yet covered by large forests of luxuriant vegetation, its lands being naturally irrigated.

In the high part of the Amazonic basin is situated the Acre territory that is becoming very prosperous.

In the Prata region are the great rivers Parana, Paraguay, and Uruguay, as you know. In this region we have also many great forests and abundant stream flow.

The Oriental region is also crossed by several rivers, among which is San Francisco River, considered the fourth largest river in the Western Hemisphere.

It forms the celebrated Paulo Affonso Falls, that rival the Niagara in height and volume of water, but are different in aspect and more majestic than they when seen near. These falls have a height of 268 feet and above them the river discharges 27,786,000 gallons per minute.



FREI CAETANO BRANDÃO SQUARE, PARÁ, BRAZIL.

This beautiful public square was established and named in honor of its founder, Bishop D. Frei Cactano Brandão, a philanthropist, who built the first hospital in Pará in 1787. The building to the right, fronting the bay, is the "Castello," or old fort, which protected the early city; the two-story building to the left was formerly a war arsenal, but is now used as a hospital. The cathedral, other important edifices, and handsome private residences front on this square.



FLUVIAL NAVIGATION ON THE PARÁ RIVER, BRAZIL.

The south arm or estuary of the Pará River is 200 miles long with a width varying from 12 to 40 miles. The city of Pará, the greatest rubber port in the world, is on the east bank of this river, 80 miles from its mouth. At regular periods, before the new and full moon each month, the rising tide enters this estuary with irresistible force in an immense wave 15 feet high, followed by three other waves of almost equal size and force. The river is navigable for vessels of the deepest draft.

There are in this region extensive forests, principally in the Jequitinhonha, Mucury, and Doce Rios, in the States of Minas Geraes, Bahia, and Espirito Santo.

The Doce Rios valley, particularly in its lower parts, is clothed yet with forests that rival in luxuriance of vegetable growth any one of the most highly developed vegetations in the world. The forests consist of exuberant vegetation, colossal trees, among which stand the celebrated Jequitiba tree, that is called the forest giant, of the Myrtaceous family. "It is always of an extraordinary growth and great circumference; only one trunk produces more than eight metrical tons of good timber." The Doce Rios forest, at least where I have been, is completely clean, without shrubby vegetation among the trees, permitting free passage among them. The Doce Rios basin is of great fertility and very abundant stream flow, being a very suitable zone for agricultural purposes by means of irrigation, that can be gotten naturally by a single deviation of water courses, whose marginal lands present the most favorable condition for such a purpose. This basin is a treasure of natural riches concerning the flora, fauna, mineral resources, and very productive soil. The State of Minas Geraes has in this basin one of its most fertile and productive parts. The Doce Rios and its tributaries have several great falls in the State of Minas, among which stands the Antonio Dias Abaixo Falls, in the Piracicaba River.

In other parts of the oriental region, particularly in its northern part, the forests are not so abundant, and even they are lacking in certain places.

Considering the total forests of Brazil, it can be said, according to Humboldt, Agassiz, Saint Hilaire, Élisée Reclus, and many other celebrated naturalists, the Brazilian forests are the largest, richest, and most luxuriant of the whole world.

All the Brazilian rivers and seas have many food fishes.

Among the geological formations of Brazil predominate the metamorphic rocks of ancient formation. The Laurentian system principally contains iron ore that is of great commercial value, but as yet practically undeveloped. This ore forms extensive deposits and will be in the near future our principal source of wealth, thanks to a new electro-metallurgic process now being experimented with in the Ouro Preto Mining School by the celebrated Brazilian, Prof. Augusto Barbosa, who has discovered a very economical method of treating the iron ores with the best results.

We have almost all the minerals found here, and they occur there more in the Huronian than in the Laurentian systems; but only those which are regularly mined are gold, silver, diamond, manganese, copper, monazite, coal, iron, mica, ochres, asbestos, quartz-crystals, salt-

peter, marble and building stones, limestones, talcum, mercury, salt, kaolin, etc.

We have good mineral springs, among which stand those of Caxambu, Lambary, and Cambuquira, in the State of Minas Geraes, and situated in very pleasant places, where the native population and strange people go every year to rest and recuperate their health. Caldas, in the same State, is also a hydromineral station considered as one of the best.

Our flora and fauna in many ways are superior to almost all those of all other countries. Principally in the north, in the Amazonic basin, we have extensive forests of rubber trees, and their product is imported in large quantities for your country.

Brazil has its most valuable resources in agriculture, whose principal product is coffee, growing principally in the south, in the State of Minas Geraes and São Paulo, forming now more than four-fifths of the total production of the world.

It produces cocoa, sugar cane, tobacco, hay, cereals, beans, roots, and tubers of all kinds, cotton of the best quality, hervamette, tea, fruits and vegetables of all kinds, etc. Rice culture is now becoming extraordinarily developed, and the importation of this product, that a few years ago was more than 2,000,000 bags, is now almost stopped. And its cultivation is almost always carried on by irrigation process. Brazil has made extraordinary progress in education, fine and liberal arts, manufactures, and in many special industries. The national exposition now open in Rio de Janeiro is a proof of this progress.

In the past year our imports were valued at £45,000,000 and our exports at £54,200,000.

The financial condition of Brazil is now the best, thanks to the patriotic management of its Government.

All its expenses, both ordinary and extraordinary, are paid with the annual taxes, which in the past year exceed the budget.

It has been the principal work of the present administration to construct railways all over the country and improve all Brazilian ports. We have already 18,000 kilometers of good railways with additional constructing under way.

Another problem that is receiving great attention from the public powers is the prospective populating of the wide area that is at present very sparsely settled.

Brazil has its doors open to all people of good intention who wish to work with us, and offers to them the most favorable conditions of success. It has inexhaustible natural resources, a people confident of their own worth, full of hope in the future of their country, who are making rapid progress in the light of modern civilization. We have order and progress and justly we have written on our flag—"Ordem e Progresso."

FISHING INDUSTRY OF THE GALAPAGOS ISLANDS

Report which the Delegate for Ecuador, Señor Don Esteban Felipe Carbo, presented to the International Fisheries Congress, held in Washington, September 22-26, 1908.

R. President, Honorable Delegates: As Delegate for Ecuador to the International Fisheries Congress, I have the honor to call your illustrious attention toward a new and hitherto unknown field of activity for the interesting, valuable, and productive industry of fisheries.

I speak with reference to Ecuadorian waters and specially of the

Colon Archipelago (Galapagos Islands) which belongs to the Republic of Ecuador, and is situated about 500 nautical miles from the coast of said country, on the western side of the Pacific, and which enjoys the old and well merited reputation for its magnificent geographical position, its splendid climate, smooth seas which surround it, and for the abundant and choice fisheries, in turtles, codfish (known by the native name of mero), and infinite and rich varieties of fish. The Government of Ecuador is ready to give all facilities and its decided support to the enterprise or enterprises who will propose to



SR. DON ESTEBAN FELIPE CARBO.

dedicate themselves to the fisheries of the Archipelago, which could be converted into one of the most productive industries in the world.

The location of the islands of the Colon Archipelago, as I expressed before, could not be more advantageous to the fishing industry on ac-

count of the facilities to ship their products to all markets. The opening of the Panama Canal will augument those facilities, providing at the same time the advantage of maritime commerce, because a large number of vessels will stop on their voyage to and from North America, South America, and Australia.

The circumstance that the ocean which surrounds these islands is tranquil all the year round, hurricanes and fogs being unknown, and the undisputed mildness of one of the best climates known, give to the islands of the Archipelago of Colon (Galapagos) an exceptional importance for establishing the industry of fisheries with indubitable benefit for the ones who will undertake it and for the whole world which will enjoy the excellency of those products. Well-known travelers have made careful studies of the Colon Archipelago, and they are all consistent with the datum that I submit to the Congress.

Small colonies can be established because the soil is rich, the ports are good, there is abundance of wild cattle, and the villages that will be erected by those interested in fishing may become important cities, there being all the facilities for living. Salt mines may be worked on the islands to salt the fish, and the nearby coast of Ecuador has numerous mines of similar character that are now in operation.

With the few undetailed facts that I give, gentlemen, I am sure that you will be convinced that the fishing industry has a new horizon and that the Archipelago of Colon is destined to be one of the most important centers of universal activity in such an important branch of the industries.

The eminent Dr. Teodoro Wolf, in his "Geology and Geography of Ecuador," says:

The Islands of Galapagos lie 9 degrees or from 500 to 600 nautical miles from the Ecuadorian coast and are traversed by the equinoctial line. The principal mass of the Islands, including the five largest ones, that is to say, Albemarle, Indefatigable, Narborough, James, and Chatham, lie between said line and the first austral degree; only the three small ones, Abingdon, Brindloe, and Towers, are north of the line, and two not much larger, Charles (Floreana) and Hood, south of the first austral degree. There are commonly 13 islands, adding to the ones I have mentioned those of Barrington, Duncan, and Jervis. Furthermore, there are several smaller keys which surround the large islands. The longitudinal area of the Archipelago, from Chatham to Narborough, measures 53 leagues, and the latitudinal from Floreana to Abingdon, 41 leagues; in a manner these islands are found scattered over an area on the Pacific Ocean of 2,000 square leagues, nevertheless reunited in one body they would have an area of 240 square leagues of solid ground. Albemarle, the largest, has 138 square leagues. In the interior of the islands the ground is covered with a surf that is green the year round. The thickets offer a large variety of trees and shrubs of equal magnificence and verdure.

Doctor Wolf, in speaking of the colonization of the islands, calls attention to the fact that the fishing along the coast could be elevated to a plane of great importance, which would be a fountain of richness

to the colonizers and which would give occupation to a numerous population. There would be in addition numerous subordinate industries, such as the taking of the oil from the turtles and terrestial iguanas.

On the question of harbors and anchorage, Lieut. Commander Z. L. Tanner, U. S. Navy, commanding the United States Fish Com-

mission's steamer Albatross, says:

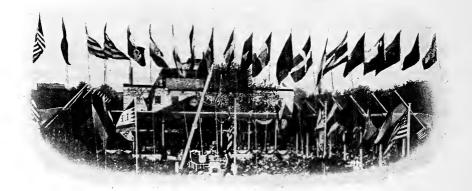
There are no land-locked harbors in the Galapagos, but anchorages are found near most of the islands where a vessel may lie usually with perfect safety. Indefatigable Island affords good anchorages from Conway Bay along its northern side to the Seymour Islands; there are places along the northeast side where good protection may be found. Chatham Island has several good anchorages. Wreck Bay is the most important, as it is the seaport of the Hacienda del Progreso, a large sugar plantation. It is open to the westward, but particularly protected by Schiavoni reef; there is usually a small swell, but landing or lightering is seldom interrupted. Stevens Bay is superior as a harbor, has more room, and has a snug cove, which forms an excellent boat landing and harbor for small craft or lighters, its smooth beach affording excellent opportunity for hauling them out for repairs. Post Office Bay, four miles north of Black Beach Road is one of the best anchorages in the Archipelago. It is well protected, with moderate depth of water and good holding ground. Landing is practicable at all times.

There are many other anchorages on these islands too numerous to be mentioned in this brief report.

Commander Tanner, commenting on the strategical value of the islands, goes on to say:

The strategical value of the islands is increasing with the advent of modern cruisers, which are entirely dependent upon steam as a motive power. They are in direct route from San Francisco to Callao and Valparaiso, and, in the event of the completion of the Panama Canal, they would lie in the route to Australia and New Zealand and would become a regular port of call for steamers plying between those places. A glance at the map will show the location of the group with reference to the coasts of North, Central, and South America, and the value of a coaling station at that point, nearly midway between San Francisco and Lota, the southernmost coaling port in the Pacific, becomes at once apparent. A modern cruiser could make the run direct from San Francisco to the Galapagos, fill up with coal, procure fresh provisions from shore, and reach the South American coast with a good supply of fuel, avoiding the longer and more expensive route via Acapulco and Panama. The location of the islands in the region of the southeast trade winds is particularly favorable for the delivery of coal from Australia, Lota, or even from the Atlantic coast. It could be laid down there at much less cost than at Acapulco or Panama.

I ask, therefore, of the Honorable Delegates of the different countries here represented that they be so kind as to call the attention of their countrymen toward the fisheries of the Archipelago of Colon (islands of Galapagos) in the certainty that they will reap great rewards.



NATIONAL FLAGS AND COATS OF ARMS OF THE AMERICAN REPUBLICS 2

BOLIVIA.

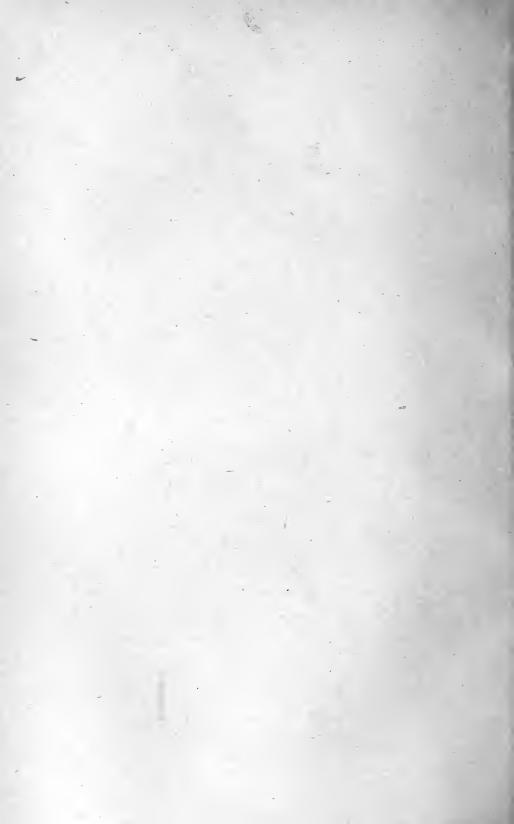
■HE history and events associated with the adoption of the national banner and ensign of Bolivia are replete with stirring historic and human interest. The geographical position and topography of the territory of what now constitutes the Republic of Bolivia are of such a nature, with respect to its neighbors, Peru and Chile to the west, Brazil to the north and east, and Argentina and Chile to the south, that the great generals and strategists of both Spain and South America early recognized, during the prolonged South American war for independence and liberty which lasted fifteen years, from 1810 to 1825, that Bolivia, or upper Peru, was the Gibraltar of the southern half of the New World. This great land of what, until its final emancipation in 1825, was designated as upper Peru, contains an extensive network of the loftiest mountain chains of the Cordillera of the Andes, with snow-covered peaks, such as Mount Sorata, which are among the highest in the world. It is only in the northeastern and eastern portions of Bolivia that tropical plains and lowlands are to be found.

One can easily understand from the foregoing description why Spain concentrated her greatest military strength in the mountain

 $[^]a$ Some authorities have estimated Sorata to be 27,000 feet above the level of the Pacific.



BOLIVIA.



fastnesses of upper Peru and maintained there a veteran, well-equipped and well-armed garrison of 25,000 men. It is also self-evident why the two great South American liberators, General Bolívar, operating from northern South America, and General San Martín, advancing northward from Argentina and Chile, in the southern extremity of the South American continent, bent their strongest efforts toward the final expulsion of the Spanish royalists from upper Peru.

During the three centuries of the rule of Spain over the whole of South America, with the exception of Brazil, which, until 1822, was a colony of Portugal, no portion of the vast Spanish South American possessions was more cruelly oppressed than the territory of upper Peru, which, until 1776, formed an integral part of the Vicerovalty of Peru. In that year, by a Spanish royal decree, it was attached to the Viceroyalty of Buenos Aires. The astonishing natural wealth of upper Peru in the precious metals caused the central government of Spain to impose the most onerous taxation upon the inhabitants and to retard their industrial development with vexatious restrictions. The inevitable result was that the spirit of revolt broke out in the early part of the eighteenth century, in 1730, the Indian element of upper Peru taking the initiative. The uprising proved short-lived, and was suppressed by the Spanish authorities with the utmost severity. A period of enforced tranquillity, during the next fifty years, ensued, but, in 1780, Tupac Amarú, an Indian who claimed descent from the last Inca emperor of Peru, raised the standard of rebellion, and, for some time, gained some notable successes against the Spanish forces dispatched against him. He was, however, taken prisoner, in 1781, and sentenced to death, his tongue being torn out and his body drawn and quartered by horses. The martyrdom of this Indian hero left, however, such a deep impression upon the native-born inhabitants of upper Peru, both of the white as well as of the Indian race, that in 1809 they rose in insurrection against their Spanish oppressors. The cultured city of La Paz inaugurated the movement by deposing, on the 25th of March, the Spanish authorities and establishing a provisional Junta or revolutionary directory. This was the beginning of a warfare between the patriots and royalists thoughout upper Peru, which, for fifteen years, was conducted with fearful barbarity by the Spaniards and with dreadful retaliatory measures by the patriots. Meanwhile, on the 25th of May, 1810, the people of the Viceroyalty of Buenos Aires, or, what is now Argentina, had inaugurated their own revolution against Spain. The new Argentine Government now dispatched various expeditions toward upper Peru to aid their fellow-patriots in the common cause against Spain. These expeditions, during the next fifteen years, sometimes achieved successes against the Spanish armies of upper Peru, but

were as often repulsed with great slaughter. The cause of liberty seemed forever doomed in that desolated, blood-stained land, when at length, at the close of 1824, unexpected deliverance came from the north. This deliverance was due to the Napoleonic military genius of the great South American liberator, General Simón Bolívar, whose army, under the skillful direction of his Lieutenant-General, Sucre, won the splendid victory of Ayacucho, in the lofty Andes of Peru, on the 24th of December, 1824, which proved the Waterloo of Spain in South America. Sucre now lost no time, but rapidly advanced south into upper Peru, and, on the 1st of April, 1825, completely routed the last Royalist army of 4,000 troops under General Olañeta, who fell mortally wounded.

The people of upper Peru received their deliverers with the greatest manifestations of gratitude and joy. Soon afterwards both Bolívar and Sucre made a triumphal entry into La Paz, the principal city of upper Peru. The first thought of these South American liberators was to establish a free, constitutional government in the now emancipated territory. With this end in view Bolívar ordered the election of national representatives May 16, 1825. About three weeks later, on the 10th of June, the first congress of upper Peru assembled in the city of Chiquisaca, and was formally opened by General Sucre. Nearly two months later, on the 6th of August, the anniversary of one of Bolívar's most striking victories over the Spaniards (the battle of Junín, Peru, 1824), this congress, after a long and earnest deliberation, adopted a stirring declaration of independence, to the effect that it was important to the welfare of upper Peru not to incorporate herself with any of the coterminous South American Republics, but to erect herself into a sovereign and independent state, in relation to the New as well as the Old World. The congress further decreed that the name of the newly created state should be "The Republic of Bolivar." This designation, at Bolívar's own request, was modified into "The Republic of Bolivia." General Sucre became the first President of Bolivia, from 1826 to 1828, when he resigned his power.

With Bolivia constituted a free and sovereign nation, a national flag and coat of arms were adopted. The Bolivian banner and ensign, with some modifications within recent years, has remained virtually the same for the last eighty-three years.

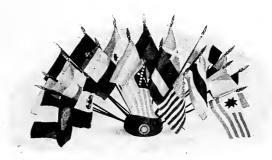
The Latin-American spirit of poetry and romance are associated with the national colors of Bolivia. The red of the flag denotes the animal kingdom; the yellow, or gold, the mineral kingdom; and the green, the vegetable kingdom. The merchant banner is converted into the national ensign by placing the Bolivian coat of arms in the center of the middle or yellow stripe of the flag.

THE NATIONAL COAT OF ARMS OF BOLIVIA.

The national coat of arms of Bolivia has been slightly modified within recent years, the most important change being that the alpaca, famous for the fine texture of its woolen fleece, has been substituted, as the representative of the animal kingdom, for the llama, the South American "camel of the desert." The essential details of the Bolivian coat of arms may be described as follows:

The coat of arms of the Republic is elliptical in form. There is seen in the center the mountain crest of Potosi, celebrated for its traditional mineral wealth; on the left there is an alpaca, and, on the right a sheaf of wheat and a breadfruit tree. In the upper part there is a rising sun, with light corresponding cloud effects. At the apex of the oval of the shield one sees the inscription "Bolivia," while in the lower portion of the elliptical ring in which the field and design of the shield are framed there are nine stars. On each side of the oval there are three Bolivian banners, a cannon, and two rifles with fixed bayonets pointing upward at an angle; an Inca battleax is on the right, and a liberty cap on the left. Above all this, as a crest, the condor of the Andes between two branches of laurel and olive; the condor being in the attitude of flying.

The three kingdoms of nature are found represented in the coat of arms, as follows: The mountain crest of Potosi represents the mineral kingdom; the alpaca, the animal kingdom; and the sheaf of wheat and breadfruit tree represent the vegetable kingdom. The rising sun represents the future of Bolivia; the nine stars represent the nine departments into which the Republic was divided until 1905; the banners, the love of country; the cannon and rifles, the arms of the Republic; the laurel represents victory; and the olive, peace.



NATIONAL HOLIDAYS OF THE AMERICAN REPUBLICS

BOLIVIA.

'T was due to the commanding military genius of the great South American liberator, Simón Bolívar, and his lieutenant, Gen. Antonio José Sucre, that the heroic inhabitants of upper Peru, or the territory which now comprises the Republic of Bolivia, were at length emancipated from three centuries of Spanish misrule and General Bolívar, immediately after effecting, in April, 1825, the final liberation of upper Peru, issued a decree, on the 16th of May, for the election of representatives to a national congress. About three weeks later, on the 10th of June, this first or Constituent Congress of upper Peru assembled in the city of Chiquisaca and was formally opened by General Sucre. The question of the future political status of the newly created Republic was the subject of earnest debate and long deliberation, but, on the 6th of August, the anniversary of the battle of Junin, Peru (won in 1824 by Bolívar), published a solemn declaration of independence, announcing that it was important to the welfare of the Republic of Bolivia, named in honor of her great liberator, not to incorporate herself with any of the coterminous South American Republics, but to "erect herself into a sovereign and independent state in relation to the New as well as the Old World." This declaration was signed by José Mariano Serrano, the President, and 57 members of the Congress. assembly further decreed that hereafter the 6th of August should be annually observed throughout Bolivia as a national festival, in commemoration of the battle of Junin, Peru, and the adoption of the Bolivian national declaration of independence. In accordance with the foregoing decree, Bolivia annually celebrates, solemnly and amid great rejoicing, her national independence day.

NATIONAL IRRIGA-TION CONGRESS

N accordance with the established programme the National Irrigation Congress met in Albuquerque, New Mexico (United States of America), September 29 to October 3, 1908. It was a great and notable gathering of men from all parts of the United States, and its character became international in scope by the fact that delegates and visitors from many of the progressive countries of the world attended the meetings. No better proof than this could be given of the interest taken by all countries in the question of irrigation, which is the "open sesame" to new territories heretofore considered barren and waste.

The International Bureau of the American Republics was represented by Director Barrett, whose address has already been given in the preceding number of the Monthly Bulletin. Acting on a spirit of broad and comprehensive comparison, he outlined the world's policy on irrigation, giving practical emphasis to the accomplishments and ambitions of the Republics of Latin America.

It was not merely a business meeting, however. As was to be expected, social entertainment was also a noteworthy factor in developing acquaintance between delegates, members, and visitors. The following extract from the Albuquerque Morning Journal, Thursday, October 1, 1908, is indicative of the enthusiasm pervading the meeting and of the hospitality of Director Barrer:

Perhaps the largest number of distinguished guests ever gathered together in one place at one time in the history of the Southwest were the guests at a dinner at the Alvarado Hotel last night in honor of the foreign delegates to the Congress by Mr. John Barrett, Director of the International Bureau of the American Republics.

Fifteen foreign delegates, representing several world powers and a number of nations, attended the banquet, and all of them paid high tribute to the United States and its President, and also made complimentary references to Albuquerque and New Mexico and the efforts made to entertain them as delegates to the Irrigation Congress.

In welcoming his guests Mr. Barrett expressed the following warm sentiment toward the foreign delegates and the countries which they represent: "Words fail to express the sentiment I hold at this event, when I think that away down here in the southwestern part of the United States, fully 3,000 miles from the Capital of our country, are assembled some 15 representatives of great and friendly countries. I can not express too strongly our appreciation of these

representatives being here. I want to say to the distinguished foreign delegates that the last words which the President of the United States, Mr. Roosevelt, and the Secretary of State, Mr. Root, said to me before I left the Capital for Albuquerque were that I should express to the delegates, for the President and the Secretary of State, their appreciation that those delegates should have come to this Congress, and express for them the hope that not only our country but that their countries should be benefited by the results of the meeting."

Mr. Barrett then proposed a toast to Theodore Roosevelt, President of the United States. The toast was drunk standing.

Mr. Pierre Villard, Delegate from France, responded to a toast, in which he expressed himself as being gratified that he had been appointed as Delegate to the Congress by his country. Mr. Villard also proposed a toast to President Roosevell.

Governor George Curry, of New Mexico, expressed himself as being confident that the Territory would be admitted without further delay.

Mr. Barrett then proposed a toast to the "State of New Mexico."

Mr. F. C. Goudy, President of the National Irrigation Congress; Gen. J. Franklin Bell, Chief of Staff; Charles S. Gleed, one of the directors of the Santa Fe Railway, and H. D. Loveland, of San Francisco, were among the speakers.

Col. W. S. Hopewell, Col. R. E. Twitchell, Major Hartigan, of the Philippine Islands; Mr. Mosquera, Delegate from Porto Rico; Ex-Governor L. Bradford Prince; Carlos Camacho, Delegate from Chile; Doctor Nacamuli, Representative of Italy; Mr. Oosthuisen, of South Africa; Doctor Magee, of San Francisco, and several others also responded to toasts.

The following were Mr. Barrett's guests at the dinner: M. Rene Tavernier, Mr. Pierre Villard and M. Tavernier, jr., Delegates from France; Mr. L. Baeta-Neves, Delegate from Brazil; Mr. Carlos Camacho, Delegate from Chile; Mr. Tulio Larrinaga and Mr. Mosquera, Delegates from Porto Rico; Mr. Enrique Elias, Mr. José Falomier and Mr. Gomez Garza, Delegates from Mexico; Mr. O. Von Plehn, Delegate from Germany; Doctor Nacamuli, Representative of Italy; Doctor Schoeman and Mr. Oosthuisen, Delegates from South Africa; Major Hartigan, Delegate from Philippine Islands; Governor George Curry, of New Mexico; J. H. Kibbey, of Arizona; Ex-Governor L. Bradford Prince, of New Mexico; Mayor Felix H. Lester, Maj. Gen. J. F. Bell, President E. P. Ripley, Paul Morton, E. J. Berwind, W. A. Hopewell, F. C. Goudy, R. E. Twitchell, B. A. Fowler, Dr. McQueen Gray, H. D. Loveland, F. J. Symmes, Mr. Barstow, Doctor McGee, Doctor Smart, Lawrence D. Kelcher, G. T. Nicholson, W. B. Jansen, A. G. Wells, T. J. Norton, Charles S. Gleed, J. E. Hurley, and E. L. Medler.

RAILROAD GAUGES.

The standard railroad gauge is 4 feet $8\frac{1}{2}$ inches (1.435 meters), and was first used in 1830 in the construction of the Liverpool and Manchester Railway in England. At various times over twenty different gauges have been used from 7 feet down to 2 feet. At the present time the broadest gauge in use is 5 feet 6 inches, of which there are about 33,000 miles, about one-half in India, one-fourth in Spain and Portugal, and one-fourth in Argentina, Chile, and Paraguay.

Of the nearly 600,000 miles of railway in the world the standard gauge represents 71 per cent, the broader gauges $14\frac{1}{2}$ per cent, and the narrower $14\frac{1}{2}$ per cent, as follows:

Gauge.	Per cent.	Miles.
5 feet 6 inches. 5 feet 3 inches. 5 feet. Standard. 3 feet 6 inches. 3 feet 3 inches (meter) Less than 1 meter.	$ \begin{array}{c} 1\frac{1}{2} \\ 7 \\ 71 \\ 6 \\ 6 \end{array} $	33, 076 7, 861 35, 614 384, 705 32, 511 33, 885 14, 109

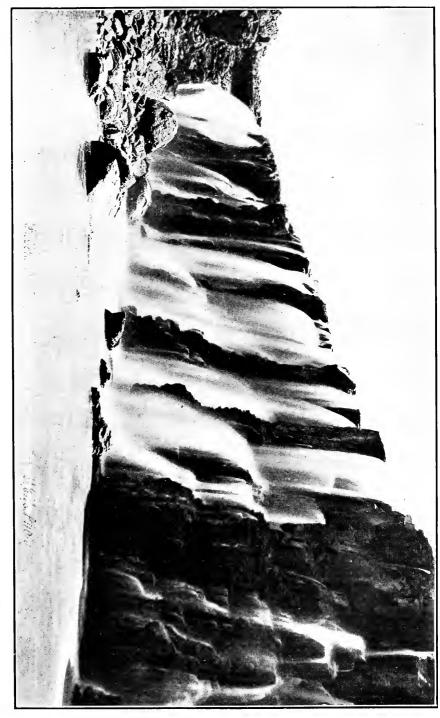
By Continental divisions the gauges are:

	Standard.		Broad.		Narrow.	
	Mile∘.	Per cent.	Miles.	Per cent.	Miles.	Per cent.
North America	234, 146	98	50		5, 204	2
Europe	136,747	71	41,967	22	13, 185	7
Asia	3,732	7	21,459	43	24,886	50
South America	3,688	14	9, 164	36	12,562	50
Africa	3,002	17			14, 762	83
Australia and Oceania	3,390	20	3,909	22	9, 906	58



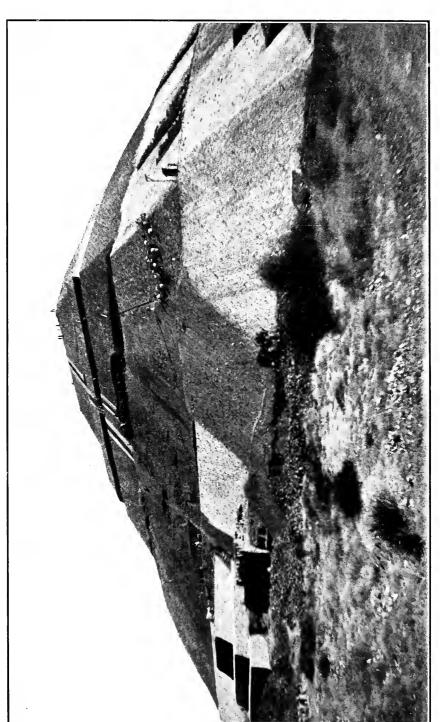
HE International Bureau of the American Republics is furnished by the Department of State of the United States with a copy of each of the trade reports received from United States consuls in the various Latin American Republics. These reports are kept on file in the Bureau and may be consulted by parties interested in their subject-matter. It is the intention hereafter in each number of the Bulletin to publish a list of the reports received up to the time of going to press for the month preceding. In this issue the list comprises the reports received for several months prior to October 20.

Title.	Date of report.	Author.
ARGENTINA.		
Argentine Foreign Commerce, First Quarter,	May 20	Alban G. Snyder, Consul-General, Buenos
1908. Encouraging Foreign Capital in the Argentine Republic.	July 3	Aires. Do.
Sale of Collars and Cuffs in Latin America	July 22	Do.
Importation and Sale of Silk. Argentine Foreign Commerce, First Six Months of 1908.	Aug. 1 Aug. 26	Do. ' Do.
Motor Car Regulations in Buenos Aires	Aug. 28	Do.
BRAZIL.		
The Commercial Situation in Brazil	May 4	George E. Anderson, Consul-General, Rio de Janeiro.
Motors and Motor Boats in Rio de Janeiro Workingmen's Houses Constructed by Munici-	May 7 May 8	Do. Do.
pality. Brazil-Portugal Parcels Post	May 9	Do.
Coffee Propaganda in England. Sale of Collars and Cuffs in Pernambuco	May 12 May 15	John W. O'Hara, Consul, Santos. George A. Chamberlain, Consul, Pernam- buco.
Port Improvements at Rio, Victoria, Itaquy, Camocim, Natal, and Corumba.	May 16	George E. Anderson, Consul-General, Rio de Janeiro.
Financial Statement on Coffee Valorization	May 20	Do. Do.
Association of Commercial Employees at Rio Banking in Brazil	May 21	Do.
Arrangements for Brazilian National Exposi-	June 2	Do.
American Flour in Brazil	June 5	Do.
Corsets in Brazil	June 16	Do. Do.
Stock. Sale of Corsets in Pernambuco	do	George A. Chamberlain, Consul, Pernam-
Sale of Collars and Cuffs in Southern Brazil Japanese in Brazil	June 20 June 22	John W. O'Hara, Consul, Santos. George E. Anderson, Consul-General, Rio de Janeiro.
Coffee and the Brazilian Trade Trade of Brazil in 1907	do	Do. Do.
Sale of Collars and Cuffs in Bahia	Aug. 3	Pierre Paul Demers, Consul, Bahia.
Sale of Corsets in Bahia	Aug. 6	Do. George E. Anderson, Consul-General, Rio de Janeiro.
New Ships for Europe and Brazil	Sept. 19	Do.



FALLS OF JUANACATLÁN, NEAR GUADALAJARA, MEXICO.

These beautiful cascades are 24 miles southeast of Guadalajara City. The waters have a sheer drop of 70 feet, and resemble in some respects the Niagara of the North, though the volume of water is much smaller. There are a number of cascades, and from the rocky bed below rise clouds of white spray and vapor which are visible from a great distance, and which, crossing the sun's rays, produce the vision of a rainbow. The falls are harnessed to develop power for operating factories and lighting Guadalajara.



PYRAMID OF TEOTIHUACÁN, MEXICO.

This imposing pyramid, dedicated to the sun by the ancient Mexteans, is 27 miles northeast of Mexico City. It is 216 feet high, with a base measuring 761 by 721 feet. The platform on the top is 59 feet from north to south, and 105 feet from east to west. Adjoining this Pyramid of the Sun is a smaller one dedicated to the moon.

Title.	Date of report.	Author.
CHILE.		
Exports, 1907 Small industries. Notes: Copper and Silver Mines, Saracen Wheat, Sugar Refineries, Customs Receipts, New Process for Increasing Coal Efficiency in Steam	do	Alfred A. Winslow, Consul, Valparaiso. Do. Do.
Production. New Electrical Plant at Valdivia Notes: English Coal for Railways, Andes Tunneled, Homes for Working People, Customs Receipts for 1907.	May 22 do	Do. Do.
Trade Outlook. Sewer and Water Systems at ConcepcionSale of Collars and Cuffs in Chile Reduction in Nitrate Production. Reduction in Nitrate Exportation. Chilean Customs Decree affecting manufactures of	May 23 May 24 May 27 May 30	Do. Do. Do. Do. Rea Hanna, Consul, Iquique.
linen, wool, galvanized iron, and boots and shoes, knock-down houses, and sugar. Notes: Postal Statistics, Fire Insurance Rates, Births, Deaths, and Marriages, Exports for first quarter of 1908, Letting of Contract for Railroad Bridges, Tuberculosis Statistics,	June 3	Alfred A. Winslow, Consul, Valparaiso.
Coal at Valdivia. Water Supply in Northern Chile. Electric Plant in Santiago. Collars and Cuffs in Iquique Progress of Work on Railway Osorno to Puerto	June 10 do June 15 June 23	Do. Do. Rea Hanna, Consul, Iquique. Alfred A. Winslow, Consul, Valparaiso.
Montt. Notes: Diplomatic and Consular Instruction, Good Roads, Steel Plant, Cottage for Work- men, Temperance Question, Government Budget Estimates.	June 24	Do.
Exportation of Nitrate Customs Receipts Discovery of Petroleum and Natural Gas. Exports for First Five Months of 1908. Manufacture of Shoes. Notes: Revenue from Liquors, Nitrate to Argentina and Brazil, Tobacco Cultivation, Fruit Tree Diseases.	July 8 do July 10	Do. Do. Do. Do. Do. Do. Do.
COLOMBIA.		
Duties on Leather Manufactures, Machinery, and Accessories, Statistics.	May 14	Jay White, Consul-General, Bogota.
Coal Deposits near Cali Duty on Fire Extinguishers. Match Factory for Medellin Foreign Trade Statistics Cartagena Street Railway Contract Declared	May 16	Do. Do. Isaac A. Manning, Consul, Cartagena. Do. Do.
Forfeited. Sale of Corsets in Barranquilla. Kitchen Stoves and Utensils in the Tropics Glassware in Colombia Discovery of Coal and Petroleum near Gulf of Uraba.	July 16 July 17 do July 22	Albro L. Burnell, Vice-Consul, Barranquill Isaac A. Manning, Consul, Cartagena. Do. Do.
Decree Regulating Trial and Punishment of Offenders against Public Order. Thermal Springs and Earthquakes in Colombia. Sale of Corsets in Colombia. Sale of Collars and Cuffs in Colombia.	Aug. 22 do Aug. 28 Sept. 5	Do. Do. Jay White, Consul-General, Bogota. Do.
COSTA RICA.		
Sale of Corsets in Port Limon Importation and Sale of Silk in Costa Rica Sale of Collars and Cuffs in Costa Rica. Sale of Corsets in Costa Rica. Commerce and Industries, 1907 Imports and Exports in 1907	June 27 July 17 Aug. 10 Sept. 10	Chester Donaldson, Consul, Port Limon John C. Caldwell, Consul, San Jose. Do. Do. Do. Do.
CUBA.		
Sale of Collars and Cuffs in Havana, 1908	May 27	James L. Rodgers, Consul-General, Havan
DOMINICAN REPUBLIC.		
Sale of Collars and Cuffs in the Dominican Republic. Sale of Collars and Cuffs in Puerto Plata Consular District.	May 29 June 2	Fenton R. McCreery, Minister Resident an Consul-General, Santo Domingo. Arthur W. Lithgow, Vice-Consul, Puer Plata.

Title.	Date of report.	Author.
DOMINICAN REPUBLIC—continued.		
Sale of Corsets in the Dominican Republic	June 22	Fenton R. McCreery, Minister Resident and
Sale of Corsets in Puerto Plata Consular Dis-	Aug. 7	Consul-General, Santo Domingo. Arthur W. Lithgow, Vice-Consul, Puerto
trict. ECUADOR.		Plata.
Sale of Corsets in Ecuador	June 24	Robert B. Jones, Vice-Consul-General, Guay-
Sale of Collars and Cuffs in Ecuador New Railroad to be Constructed from Huigra to Cuenca.	Aug. 5 Aug. 29	aquil. Do. Herman R. Dietrich, Consul-General, Guayaquil.
GUATEMALA.		·
Sale of Collars and Cuffs in Guatemala	May 2	William Owen, Vice and Deputy Consul- General, Guatemala City.
Commercial and Financial Statistics, 1905, 1906, and 1907.	May 29	Do.
HAITI.		
Sale of Collars and Cuffs in Haiti	May 14	Lemuel W. Livingston, Consul, Cape Haitien.
HONDURAS.		
Sale of Corsets in the Bay Islands of Honduras Sale of Corsets in Honduras Exports from Amapala to the United States,	June 5 June 10 July 10	Herbert R. Wright, Consul, Utila. Drew Linard, Consul, Ceiba. William E. Alger, Consul, Tegucigalpa.
First Six Months, 1908. Exports from Amapala for Years 1905, 1906, and	Aug. 5	Do.
1907. MEXICO.		
Notes of Saltillo District: Brewery Concession, Fire Insurance, High School Building, Irriga- tion Contracts, Native Plant as Substitute for Quinine, Mexican Army Uniforms, New Foundry and Machine Shop.	May 21	Thomas W. Voetter, Consul, Saltillo.
Sugar and Molasses Production of Mexico Mesquite as Material for Paper Manufacture	May 28	Clarence A. Miller, Consul, Matamoros.
Sugar and Molasses Production of Mexico	May 30	Samuel T. Lee, Consul, Nogales. Carl F. Deichman, Consul, Manzanillo.
Sale of Corsets in Manzanillo. Sale of Corsets in Mazatian District. Corsets in Ensenada District. Sale of Corsets in Ciudad Juarez District.	do	Louis Foicer Consul Magatlan
Sale of Corsets in Ciudad Juarez District	do	Everett E. Bailey, Consul, Ensenada. John W. Gourley, Vice and Deputy Consul, Ciudad Juarez
Sale of Corsets in Yucatan	June 6	Ciudad Juarez. Edward H. Thompson, Consul, Progreso. Clarence A. Miller, Consul, Matamoros.
Cloth Factory at Orizaba. Sale of Corsets in La Paz District. Sale of Corsets in Chihuahua. American Publications in Ciudad Porfirio Diaz.	June 13	William W. Canada, Consul, Veracruz. George B. McGoogan, Consul, La Paz. Lewis A. Martin, Consul, Chihuahua. Luther T. Ellsworth, Consul, Ciudad Por
Sale of Corsets in Monterey	do	firio Diaz.
Starch Corn.		firio Diaz. Clarence A. Miller, Consul, Matamoros.
Importation of Glass. Sale of Corsets in Durango.	June 16	Lewis A. Martin, Consul, Chihuahua. Charles M. Freeman, Consul, Durango.
Sale of Corsets in Nuevo Laredo. Port Regulations and Conditions, Salina Cruz	June 25	Alonzo B. Garrett, Consul, Nuevo Laredo. Warren W. Rich, Vice and Deputy Consul,
Germany a Competitor of the United States in	June 26	Salina Cruz. Clarence A. Miller, Consul, Matamoros.
Importation of Glass	do June 29	Do. Do. Carl F. Deichman, Consul, Manzanillo.
merce. Sale of Corsets in Veracruz District Notes: Electric Lighting Company, Railway Passenger Engines, Insurance Companies.	June 30 July 8	William W. Canada, Consul, Veracruz. Do.
Suggestions as to Methods of Extending Trade with Mexico.	July 11	Clarence A. Miller, Consul, Matamoros.
Moving Picture Shows. Matamoros Notes: Importation of Machinery, Furniture, Trade Catalogues.	July 14 July 18	William W. Canada, Consul, Veracruz. Clarence A. Miller, Consul, Matamoros.
Importation of Glass at Acapulco	July 20	Maxwell K. Moorhead, Consul, Acapulco. Benjamin H. Ridgely, Consul-General, Mexico City.
Sale of Corsets in Mexico	July 21	Thomas W. Voetter, Consul, Saltillo. Lewis A. Martin, Consul, Chihuahua. George B. McGoogan, Consul, La Paz.

Title.	Date of report.	Author.
MEXICO-continued.		
Exports from Durango, 1905, 1906, and 1907 Notes: Sponge Fishery, New Jail, and New Mar-	July 27	Charles M. Freeman, Consul, Durango.
Notes: Sponge Fishery, New Jail, and New Mar- ket at Veracruz, Street Car Service at Orizaba,	July 30 Aug. 1	William W. Canada, Consul, Veracruz.
New Steamship Line, Depression in Trade.	Aug. 3	Do.
Development of Oil Fields Notes: Beef Packing Plant, Refrigerating, Union Station at Veracruz, Mexican Concessions, Illu-	Aug. 4	Do.
minating Oils. Road Construction in Mexico	Aug. 10 Aug. 5	Benjamin H. Ridgely, Consul-General, Mexico
Ice Machines and Refrigerators in Mexico		City.
Photographic Invention Bananas in the State of Tamaulipas	do Aug. 10	Do. Clarence A. Miller, Consul, Matamoros.
New Electric Railway	Aug. 25	Benjamin H. Ridgely, Consul-General, Mexico City.
Market for School Furniture.	Aug. 27	William W. Canada, Consul, Veracruz.
Mexican-Made Clothing Cost of Irrigation by Pumping	Sept. 2 Sept. 4	Samuel T. Lee, Consul, Nogales. Clarence A. Miller, Consul, Matamoros.
Whiting Found in Campeche.	Sept. 7	Benjamin H. Ridgely, Consul-General, Mexico City.
Barbers' Furniture and Supplies in Veracruz District.	Sept. 29	William W. Canada, Consul, Veracruz.
The Utility of Spanish Imports for the Year ended June 30, 1908	Sept. 30	Clarence A. Miller, Consul, Matamoros. Do.
The Coal and Coke Industry	do	Do.
NICARAGUA.	ı	
Sale of Collars and Cuffs in Western Nicaragua Sale of Corsets at Cape Gracias a Dios	May 30 June 18	José de Olivares, Consul, Managua. Edwin W. Trimmer, Consul, Cape Gracias a Dios.
Hot Springs in Nicaragua.	Aug. 3	Do.
PANAMA.		
Sale of Collars and Cuffs in Panama	May 15	Arnold Shanklin, Consul-General, Panama.
PARAGUAY.		
Proposed New Railway from Asuncion to Alto	June 1	Edward J. Norton, Consul, Asuncion.
Parana. Sale of Corsets in Paraguay	Aug. 3	Do.
PERU.		
Sale of Collars and Cuffs in Peru	May 11	Samuel M. Taylor, Consul-General, Callao.
Sale of Corsets in Peru. Annual Report of Trade, 1907	June 29 Aug. 20	Do. Do.
SALVADOR.		
Sale of Corsets in Salvador	June 12	Samuel E. Magill, Consul-General, San Sal-
URUGUAY.		vador.
Commerce and Trade in 1907	Sept. 5 Sept. 7	F. W. Goding, Consul, Montevideo.
Sale of Collars and Cuffs in Uruguay	Sept. 7 Sept. 8	Do. Do.
Importation and Sale of Silk Goods in Uruguay	Sept. 9	Do.
VENEZUELA.		
Sale of Corsets in Maracaibo Sale of Corsets in Puerto Cabello Decree Fixing Export Duty on Silicates and Carbonates of Magnesium.	June 9 June 19 do	Eugene H. Plumacher, Consul, Maracaibo. James W. Johnson, Consul, Puerto Cabello. Eugene H. Plumacher, Consul, Maracaibo.
Statistics of Exports and Imports for the Year	June 21 June 22)
1906-7.	June 23	Do.
Statistics of Coffee Exports, 1906.	July 8 July 10	Do.
Résumé of Exports	do	Do.



FOREIGN COMMERCE FIRST HALF 1908.

The foreign commerce of the Argentine Republic for the first half of 1908 was \$354,349,628, consisting of imports to the value of \$131,-273,361 and exports aggregating \$223,076,267.

In the six months referred to the merchandise imported which was subject to the payment of duties amounted to \$90,859,696, and the merchandise which entered without the payment of duties, \$40,413,665. The importation of bullion was valued at \$18,879,819. Comparing these figures with those for the same period of the preceding year, the merchandise subject to duty increased by \$9,052,348, and that which entered free decreased by \$8,340,672. The importation of bullion decreased by \$711,676.

The exports that were subject to the payment of duty amounted to \$230, and those free of duty to \$223,076,037. The exports of bullion were valued at \$33,341.

The exports in the first half of 1908 exceeded the imports by \$91,802,906.

Great Britain occupies the first place in the imports of the Republic, \$45,193,816 of merchandise having been imported from that country during the half year referred to. The following countries after Great Britain are named in the order of their importance in the imports of the Argentine Republic: Germany, \$19,719,920; United States, \$16,252,512; France, \$12,732,256; Italy, \$12,483,174; Belgium, \$6,509,175; Spain, \$4,128,627; Brazil, \$3,087,451; Austria-Hungary, \$1,697,590; the Netherlands, \$1,038,680; Uruguay, \$1,298,424; Paraguay, \$801,118; Chile, \$256,586; Bolivia, \$70,181; and Africa, \$21,958.

These figures, compared with those of the first half of the preceding year, show an increase in the imports from Italy of \$1,284,514; from Spain, \$925,645; from Austria-Hungary, \$724,113; from France, \$444,405; from the Netherlands, \$328,965; from Paraguay, \$258,929; from Chile, \$93,004, and from Africa, \$14,077. There was a decrease in the imports from Germany to the amount of \$1,317,956; from Great Britain, \$979,425; from the United States, \$769,627; from Belgium, \$658,048; from Uruguay, \$204,303; from Brazil, \$107,763; and from Bolivia, \$6,418.

Exports from the Argentine Republic for the first half of 1908 were as follows: To Great Britain, \$42,597,757; to Belgium, \$21,698,437; to Germany, \$19,494,451; to France, \$13,841,315; to Brazil, \$6,934,492; to the United States, \$4,570,322; to Italy, \$3,981,043; to the Netherlands, \$3,507,335; to Spain, \$1,024,788; to Chile, \$947,734; to Africa, \$710,078; to Austria-Hungary, \$600,676;

to Bolivia, \$511,635; to Uruguay, \$338,024; and to Paraguay, \$152,574.

The following increase is noted in the exports of the Republic during the first half of 1908 as compared with the same period of 1907: Great Britain, \$22,211,170; Austria-Hungary, \$3,142,201; Italy, \$1,516,477; the Netherlands, \$1,142,629; Brazil, \$513,791; Spain, \$268,245; Belgium, \$143,662; Paraguay, \$85,947; and Bolivia, \$17,683.

The exports of the Argentine Republic to the countries mentioned below during the first half of 1908 show the following decreases as compared with the same period of the previous year: France, \$10,236,464; Germany, \$3,233,054; Uruguay, \$2,690,567; United States, \$1,952,965; Africe, \$345,850; and Chile, \$95,925.

The following table shows the imports of the Republic from 1905 to the first half of 1908, inclusive:

1905	\$205, 154, 420
1906	
1907	285, 860, 683
1908 (first half)	131, 273, 361

The exports of the Argentine Republic from 1905 to the first half of 1908, inclusive, were as follows:

1905	\$322, 843, 841
1906	292, 253, 829
1907	296, 204, 369
1908 (first half)	131, 273, 361

The percentages of imports from the various countries during the first half of 1908 were as follows: Great Britain, 34.4; Germany, 15; United States, 12.4; France, 9.7; Italy, 9.5; and Belgium, 5.

The principal items of imports and their values were as follows: Textiles, \$23,452,009; rolling stock, \$16,110,305; hardware, \$14,366,233; glassware and crockery, \$12,382,601; foodstuffs, \$12,082,607; building material, \$11,292,058; liquors, \$6,230,822; oils and grease, \$5,178,202; drugs and chemicals, \$4,688,951; lumber, \$3,018,328; tobacco, \$2,792,652; electrical supplies, \$1,718,836; and live stock, \$997,503.

The classification of the exports was: Pastoral, \$55,315,672; agricultural, \$163,794,913; forestal, \$2,609,330; mineral, \$322,510; products of the chase, \$138,970; and sundry products, \$894,872.

The customs revenue for the first half of 1908 amounted to \$33,893,656 gold and \$690,071 paper currency, an increase when compared with 1907 of \$2,599,789 gold and \$9,019 paper.

AGRICULTURAL DEVELOPMENT.

In an address delivered September 14, 1908, on the occasion of the opening of the great Rural Exposition of the City of Buenos Aires, Señor Figueroa Alcorta, President of the Republic, related some

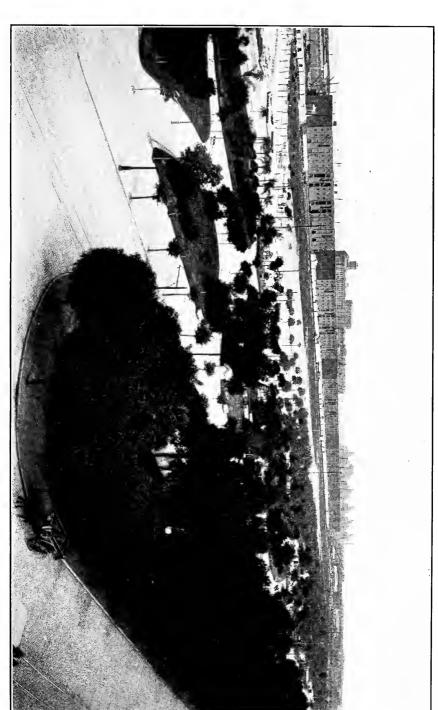
interesting facts concerning the wonderful agricultural development of the Argentine Republic. President Alcorta said that twenty-five years ago all the flour used in the country was imported, while to-day the annual production of that article in the Republic is over 5,500,000 tons. The area of land under cultivation in wheat and other grains in the Argentine Republic exceeds 15,000,000 hectares, which yield more than 10,500,000 tons of cereals. The Republic occupies an important place among the producing and exporting countries of the world. From the development already attained, it can readily be seen that in a comparatively short time the country will have 100,000,000 hectares of land under cultivation and that the area planted in corn will rival that of the principal corn-producing countries of the world.

The live stock of the Republic has been greatly improved, and especially is this true of cattle which have been developed by a careful and methodical selection of the different breeds and by the application of the latest and most scientific methods in the exploitation of this industry, thus placing the Argentine Republic in the foremost rank among the principal countries of the world engaged in stock raising. That there will be a further development of this industry is reasonably certain, inasmuch as the soil and climate of the Republic are exceptionally favorable to the raising of live stock.

The Government is now considering the advisability of exempting from customs duties machinery used in this industry, of reducing the freight and transportation charges on commodities, of opening numerous outlets for the products of the country, and, above all, giving suitable protection to the industries of the Republic by the observance of the sanitary laws relating to cattle and other live stock. According to the last census returns, cattle in seven Provinces alone represent a value of \$536,800,000, and the capital invested in the industry in the single Province of Buenos Aires amounts to \$1,980,000.

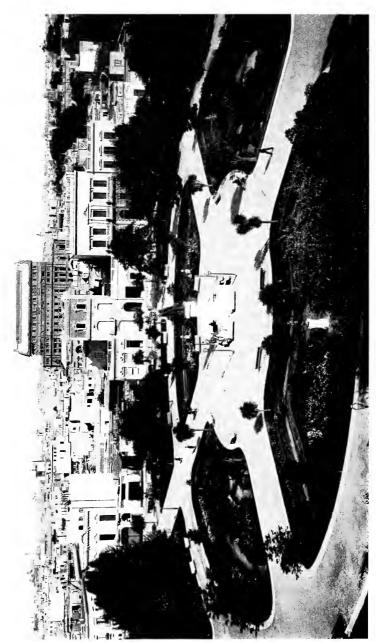
THE BUDGET FOR 1909.

Under date of August 3, 1908, the President of the Argentine Republic submitted to the consideration of the National Congress the proposed law containing the general appropriation of expenses and the estimate of revenues for the fiscal year 1909. The total amount appropriated for expenses is 236,820,409.70 pesos (about \$118,000,000), which, compared with that of 1908, shows an increase of 4,174,874.24 pesos (about \$2,000,000). The total revenue is estimated at 237,071,213.02 pesos (about \$118,500,000). For the service of the public debt, the appropriation bill includes an item of 69,032,062.03 pesos (about \$34,000,000), that is to say, 3,003,306.06 pesos (about \$1,500,000) less than it was in 1908.



PASEO COLON, BUENOS AIRES.

This beautiful promenade is on made ground, adjacent to the extensive docks of Buenos Aires, and was formerly an open and unattractive plot of land.



LIBERTY SQUARE, BUENOS AIRES.

Liberty Square, one of the most beautiful in Buenos Aires, covers an area of 3 acres, and is noted for its sunken gardens. The statue in the center was erected in honor of the late Dr. Valentin Alsina, a distinguished Argentine jurist, whose pen contributed powerfully to bring about the revolution of 1852, and the resultant epoch of liberty and enlightenment of the Argentine Republic. In the distance is the new Municipal Theater, recently completed at a cost of \$1,760,000 gold.

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COMMERCE WITH GREAT BRITAIN IN 1907.

The consul-general of the Argentine Republic in London in an interesting report made to his Government states that during the year 1907 there were shipped from the Argentine Republic to Great Britain 1,080,805 tons of wheat; 3,630 tons of flour; 247,275 tons of Indian corn; 88,220 tons of frozen and chilled beef; 34,673 tons of frozen mutton; 13,110 tons of wool; 141,625 tons of linseed; 10,180 tons of tallow; 3,218 tons of salted oxhides, a part of which came from Uruguay; and 1,213 tons of salted sheepskins.

The values of the foregoing products were as follows: Wheat, \$44,234,000; flour, \$171,000; Indian corn, \$7,362,000; frozen and chilled beef, \$14,778,000; frozen mutton, \$5,569,000; wool, \$5,773,000; linseed, \$7,466,000; tallow, \$1,536,000; salted oxhides, \$3,219,000; salted sheepskins, \$1,214,000; other salted skins, \$13,335. The total

value of the imports is stated at \$87,974,000.

During the first half of 1908 Great Britain exported to the Argentine Republic merchandise valued at \$21,436,000, or a balance of trade in favor of the Argentine Republic of \$66,538,000. The exports of the Argentine Republic to Great Britain during the half year referred to were \$42,597,757.

MOTOR-CAR REGULATIONS IN BUENOS AIRES.

According to a recent ordinance of the municipality of Buenos Aires, drivers of motor cars must pass an examination and carry duplicate pass books containing their license and blank pages on which any accident or carelessness may be recorded by the police. Persons under 18 years of age are only permitted, after passing the required examination, to run motor cars up to 12 horsepower. The motor cars must be provided with nonslipping tires, and the acetylene searchlight is prohibited in the business section of the city. Efficient brakes must be used, which shall be tested at regular periods, and the automatic whistle and similar devices are prohibited, the motor cars being provided with regulation horns.



MESSAGE OF THE PRESIDENT.

On August 6, 1908, President Montes read an interesting message on the occasion of the opening of the Bolivian Congress, in which he referred to the cordial relations of the Government of Bolivia with all the nations of the Old and the New World, and particularly to the good will and friendliness of the neighboring republics, and the satisfactory economic and commercial conditions of the foreign commerce of the country so potent in promoting and extending the international relations of the Republic.

The Executive states that the treaty of amity and commerce made with Germany will be submitted in due course to the consideration of the Congress, and that a commercial treaty with Great Britain, which also relates to the rights of the subjects of the two countries in interest, is being negotiated, and at the proper time will be submitted



A SECTION OF LA PAZ, BOLIVIA.

La Paz is one of the most picturesquely located cities of the world. Perched in a cleft of the Andean range, 12,500 feet above the level of the sea, it is walled in on three sides by mountains towering above the cathedral spires, while in the distance the sparkling summits of Illimani and Sorata rear their snowy peaks against a cloudless sky, forming a scene as awe inspiring as any in the world. This quaint but progressive commercial City of Peace is in easy communication with the Pacific coast, and will soon be connected by the great Trans-Andean railway system with the Atlantic as well as the Pacific Ocean.

to the Congress for definite action. Bolivia has, through its legation in London, adhered to the International Telegraphic Convention of St. Petersburg, and the country now enjoys the advantages obtained from the operation of that important agreement.

The boundary question with Peru will doubtless soon be settled, inasmuch as the time for the submission of evidence has expired, and the only thing remaining to be done is the redaction and pronouncement of the arbitral award. The convention of January 30, 1908,

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regulating the freedom of transit in Peru is now in force, the Peruvian Government having had a custom-house constructed at Mollendo to be used exclusively in the import and export trade of Bolivia through that port.

In accordance with the treaty of peace and amity with Chile, the construction of the Arica to La Paz Railway, which was commenced in 1906, is being continued under government administration, and measures have been taken for the purpose of hurrying forward the construction by letting contracts to responsible private contractors, bids for which have been called for by the Chilean Government in December next. The Government of Bolivia, in conjunction with the Government of Chile, has appointed a commission to examine a section of 80 kilometers of the Arica to La Paz Railway recently constructed, as well as to examine and verify the rest of the construction of this important international line.

The approval of the protocols with the Argentine Republic of May 14, 1898, April 23, 1902, and January 28, 1904, permitting the reopening of delimitation surveys, have not yet been acted upon by the Argentine Congress.

The Northern Central Railway, which it has been decided to extend to Tupiza, has been opened to public traffic to Quiniaca, connecting with iron bands, and in a permanent manner, the Bolivian-Argentine frontiers and interests. Doubtless funds will be appropriated during the present year, in accordance with the recommendations of the protocol of May 18, for the extension of the line to Tupiza, the survey of which, between Potosi and Tupiza, is now being made by Mr. Faure, the Argentine engineer.

The work of the delimitation of the frontier of Brazil by the survey commission is progressing in a satisfactory manner. Negotiations will again be commenced in September, looking to the concluding of a commercial treaty with Brazil, for the purpose of encouraging to a still greater degree the development of the growing commerce between the two nations.

Construction work has been begun on the Madera Mamore Railway, the Government of Brazil having arranged to negotiate a loan of 51,000,000 francs (\$10,200,000) to be invested in this railway.

Relations with the Holy See have been reestablished.

The foreign commerce of Bolivia in 1907 was 88,229,159 bolivianos (\$35,291,600), not including the imports and exports through the custom-houses of Bahia in the Acre Territory, the figures of which have not yet been received. Owing to the effect of the financial depression the foreign commerce in 1907 was less than it was in 1906, but was 38,000,000 bolivianos (\$15,200,000) more than in 1904. Foreign trade, however, is increasing, and it is worthy of note that

the value of Bolivian exports exceeds the value of imports by at least

50 per cent.

In recapitulating the international work of the last presidential period, the Executive calls attention to the fact that while in 1904 Bolivia lacked a free outlet to the Pacific, in 1908 it finds itself enjoying free transit with that ocean and in practical control of maritime custom-houses located thereon, all of which has been accomplished by treaties with Chile and Peru during the term of his administration.

COMMERCE WITH GERMANY.

Bolivia's trade with Germany has considerably increased during the last few years. In 1905 Germany imported from Bolivia, through the port of Hamburg, products to the value of 7,047,246.33 marks (\$1,781,000), as compared with 9,467,987 marks (\$2,366,000) in 1906 and 13,616,773.55 marks (\$3,404,000) in 1907.

The commerce of Germany with South America is increasing yearly. In 1904 the imports by Germany from South American countries, through the port of Hamburg, amounted to 555,338,770 marks (\$138,834,000); in 1905, to 607,103,170 marks (\$151,774,000), and in 1906 to 676,989,130 marks (\$169,245,000). The exports of Germany to South America through the port of Hamburg were, in 1904, 1905, and 1906, 256,262,633 marks (\$64,065,000), 300,096,836 marks (\$75,024,000), and 364,341,467 marks (\$91,085,000), respectively. A pamphlet concerning the immigration laws of Bolivia has been

A pamphlet concerning the immigration laws of Bolivia has been translated into German and widely distributed throughout the Empire with a view of attracting German immigrants. The great obstacle to obtaining German emigrants is the cost of transportation

from Germany to Bolivia.

TRI-WEEKLY STAGE LINE BETWEEN QUIACA AND TUPIZA.

The Government of Bolivia has authorized Zenon Mansilla to establish a tri-weekly stage and wagon service between the northern terminus of the Northern Central Argentine Railway and the city of Tupiza. A sufficient number of stage coaches and freight wagons will be used to meet the demands of the traffic. One day is allowed in which to make the trip between the two points. During the rainy season saddle and pack animals will be employed at points where the stages and wagons can not go.

The fare between Quiaca and Tupiza, or vice versa, is fixed at 18 bolivianos (\$7.20), and 3 bolivianos (\$1.20) for each 100 pounds of baggage transported. The Government will make the necessary repairs to the highway, after which the concessionaire will keep it in proper condition for transit. An annual subvention of 10,000 bolivianos (\$4,000) will be paid to the concessionaire by the Gov-

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ernment, and an additional sum of 5,000 bolivianos (\$2,000) will be given him for carrying the mails between Tupiza and Quiaca.

The concession is valid for three years, provided the Northern Central Argentine Railway does not arrive at Tupiza before that time. Upon the arrival of the railway at Tupiza the stage and wagon service referred to will be terminated.



IMMIGRATION, FIRST HALF OF 1908.

Immigration statistics covering the first half of 1908, give 40,791 as the total number of arrivals at the different ports of Brazil, of which 6,467 received governmental aid.

The number of immigrants at the port of Rio de Janeiro during this period was 19,788, as compared with 13,552 during the same period of 1907. The nationality of the immigrants entering at the port of Rio was as follows: Portuguese, 10,876; Spaniards, 2,911; Italians, 2,035; Austrians, 1,207; Russians, 765; Germans, 437; Arabians, 388; naturalized Brazilians, 313; Dutch, 222; French, 179; English, 149; Poles, 104; North Americans, 44; Argentinians, 27; Greeks, 22; Belgians, 21; Swiss, 19; Roumanians, 13; Uruguayans, 12; Japanese, 7; Moroccans, 6; Chileans, 5; Peruvians, 5; Danish, 4; Hungarians, 4; Norwegians, 4; Swedes, 3: Cubans, 2; Mexicans, 2; Canadians, 1; Ecuadorans, 1.

The Federal Government has founded the following new colonies: Affonso Penna, in the State of Espirito Santo; João Pinheiro, State of Minas Geraes; Itatiaya, State of Rio de Janeiro; Visconde de Maua, States of Rio and Minas; Xavier da Silva, State of Parana, and Alto Braco Norte, State of Santa Catharina.

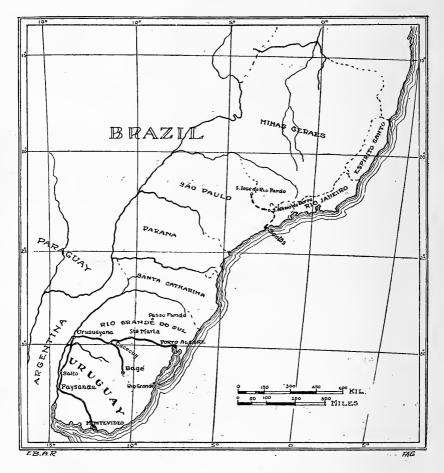
The State of Minas Geraes, with the aid of the Federal Government, is establishing colonies at Vargem Grande and Itajuba. The State of São Paulo is founding the colonies of Nova Europa, Nova Paulicea, Conselheiro Gaviãa Peixoto, Conde do Pinhal, Nova Odessa, and Jorge Tibirica. The government of the State of Rio Grande do Sul, assisted by the Federal Government, is enlarging the colony Guarany, which comprises the two colonial centers of Comandahy and Uruguay.

RAILWAY FROM PASSO FUNDO TO THE URUGUAY RIVER.

A decree of August 27, 1908, has approved the final survey and estimates of a section, 28 miles in length, of the line connecting Passo Fundo with the Uruguay River.

TRAIN SERVICE BETWEEN PORTO ALEGRE AND MONTEVIDEO.

According to advices from Rio Grande do Sul, it was expected that through trains would be running between Porto Alegre and Montevideo via Uruguayana during the present month. It is proposed to run one train per week, making the trip from Porto Alegre to Montevideo in three days, and from Bage in two days.



THERESOPOLIS AND GOYAZ RAILWAY.

The Theresopolis Railway was officially inaugurated September 19, 1908.

Work has been begun on the new line connecting Bello Horizonte with the Goyaz Railway. The principal engineering works consist of two bridges, one 262 feet long, spanning the Paraapeba River, and another, 199 feet long, over the Para River.

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RAILWAY FROM SANTA BARBARA TO SANTA ANNA DOS FERROS.

On September 22, 1908, the first section of the branch line of the Central Railway, which extends from Santa Barbara to Caethe, a distance of 15 miles, was opened to traffic. The branch line is being built from Santa Barbara to Santa Anna dos Ferros, where it will connect with the railway running to the port of Victoria.

PROPOSED RAILWAY INTO THE STATE OF MINAS.

The Mogyana Railway Company has in project the construction of a branch line from Sao Jose do Rio Pardo to Santo Antonio da Barra, on the boundary line of the State of Minas. This company is negotiating with the Federal Government for the concession of the line between Resaca and Santos.

SAO PAULO RAILWAYS.

Work on the various sections of the São Paulo-Rio Grande Railway is reported to be progressing rapidly. Considerable progress has already been made on the section extending from São João to the Uruguay River, a distance of about 184 miles.

Great progress is reported on the branch line of the São Paulo Railway, extending from Bebedouro to Barretos. It is expected that the line will be opened to traffic by January, 1909.

Information received from Porto Velho, which is the point at which construction work on the Madeira-Mamore Railway has been begun, states that a great impetus has recently been given to the construction of that important railway. About 1,300 men are now working on a section 25 miles long, a large part of which is ready for the laying of the rails.

MUZAMBINHO RAILWAY.

By a Legislative Decree of September 4, 1908, the Federal Government has been authorized to acquire the Muzambinho Railway, together with all its concessions, rolling stock, etc., for the sum of 12,000,000 milreis (\$3,960,000), for the purpose of incorporating the line with the Minas and Rio Railway.

POSTAL SERVICE.

The following important official report of the Brazilian Superintendent of Postal Affairs calls attention to the condition of the service, and present indications are that there will be some changes therein as a result of that report. American business men are interested in the prospect, for under present conditions the rates charged are so high as to prevent many lines of commercial activity which American

business men favor in foreign trade. At present the Brazilian postoffice charges 9 cents for a foreign letter of less than half an ounce, while penalty postage on letters coming from the United States, for instance, is assessed at 18 cents per half ounce. Brazilian postal authorities have declared many times that changes in rates can come only after a reorganization of the service such as the Superintendent in his report now asks.

The Superintendent shows that the business of the Brazilian post-office in 1907 exceeded that of any other year in all branches except in the parcels-post division, wherein there was a loss of about 8 per cent in imports and 10 per cent in exports. The income of the service in 1907 amounted to \$2,907,900, which was \$387,300 more than in 1906. This income includes \$183,300 derived from postage on official correspondence, which is provided for in the system by the issue of special official postage stamps.

The expenses of the service in 1907 amounted to \$3,689,700, which was \$206,700 more than in 1906. Attention is called to the fact that while at the beginning of the last decennium the difference between the income and the outgo of the service amounted to about 40 per cent it now amounts to only about 27 per cent, the report adding: "These arguments are for those who consider the postal service a fount of income."

The transportation division of the service was increased in 1907 by 104 postal lines, with an addition of 8,562 trips during the year. There are at present a total of 1,691 postal lines, with 2,934 messengers, covering an extension of 78,556 miles. On the lines a total of 332,856 trips were made during the year, an aggregate of 16,929,646 miles. These figures are practically double those of ten years ago. There are in the service 3,033 post-offices, employing a total of 3,442 persons.

PROPOSED CONSTRUCTION OF A NEW CAPITAL.

A syndicate headed by Adolpho Leyret has proposed the building of a new capital to the Chamber of Deputies of the Brazilian Congress, and has requested a concession authorizing the construction of said capital. The syndicate offers to build the proper structures for all the Departments of the Brazilian Government, including a presidential palace; to make roads, pave and plant them with trees; build a railway to the district from the nearest railway in Minas Geraes; establish an adequate electric light and power system, an efficient tramway system, proper drainage and water-supply systems, etc. The syndicate proposes to colonize the surrounding country and to construct a ready-made city for the Government within a period of five years, if it is authorized to do so.

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When the Constitution of Brazil was drawn by the Constitutional Convention that followed the proclamation of the Republic in 1889, it was provided that the capital of the country should be located in a district to be set aside for that purpose in the State of Goyaz, or, in other words, that the Federal capital should be located in a district to be set aside for that purpose "in a central region," and a site in the State of Goyaz was selected for it. One of the main objections at that time to this site was that it was too far inland and too inaccessible. However, the provision for the removal of the capital "in due time" was inserted in the Federal Constitution, and is an effective part of that instrument at the present time.

In case the Government accepts the syndicate's offer, the latter asks as compensation that the Government agree to move the capital to the new site within twelve months after the completion of the work, and that all lands within the boundaries of the proposed new capital not required for Government buildings and public purposes be granted to the syndicate, and that a ninety-year franchise be given it for its railway, tramway, power and light, telephone, and similar concessions. The syndicate also asks that it be granted the right to expropriate property for the use of the enterprise and that it be freed from duties on materials imported for construction purposes, as well as freedom from taxes in the new capital for a period of twenty years.

The proposition is an interesting one, but it will probably not be given serious consideration at the present time.

STEAMSHIP COMMUNICATION WITH CUYABÁ.

The "Brazilian Lloyd," which operates a rapid passenger and freight steamship service between Montevideo and Corumba, State of Matto Grosso, proposes to extend the service as far as Cuyaba, the capital of that State. The distance in a direct water line from Rio de Janeiro to Cuyaba is about 870 miles. The director of the company, Mr. Buarque de Macedo, who made a trip by steamer to Cuyaba in August, reports that with slight improvements the Paraguay, São Lourenco and Cuyaba rivers can be made navigable by steamers of small draft all the year round. No great engineering work is required, simply the removal of fallen trees and logs and the placing of buoys at points where there is great variability in the depth of the channel.

PER CAPITA CONSUMPTION OF COFFEE.

According to investigations made by the Chamber of Commerce of the State of St. Paul, Brazil, relative to the coffee trade in Europe, it appears that the per capita consumption of coffee in Germany is 3 kilos; in France, 2½ kilos; in England, 300 grams, of which 57 grams

are Brazilian coffee. The United States consumes $5\frac{3}{4}$ kilos per capita, of which $4\frac{1}{2}$ kilos are Brazilian coffees. In Holland the consumption reaches 7 kilos 200 grams per capita, of which 4 kilos 680 grams are Brazilian coffee. The per capita consumption of coffee in Belgium is also $7\frac{1}{4}$ kilos, having doubled since 1895.

NEW ELECTRIC LIGHT AND POWER PLANT.

It is reported that a company having a large capital is being organized in Europe for the purpose of establishing and operating an electric light and power plant in the interior of the State of São Paulo. The representatives of the company have already acquired several important concessions.

THE BRAZILIAN RAILWAY CONSTRUCTION COMPANY.

A governmental decree of August 27, 1908, authorizes "The Brazilian Railway Construction Company, Limited," to operate in the Republic. This is an English company, with a capital of £25,200 and having its headquarters in England. It is organized for the purpose of building railways, street railways, port works, bridges, irrigation and reclamation works, and other public utilities.

RIO DE JANEIRO DOCKS.

Consul-General George E. Anderson advises that plans for the extension of the new dock system of Rio de Janeiro, when completed, will be the greatest dock system in South America. The docks now being constructed in Rio de Janeiro are owned by the Federal Government of Brazil. The present Government has determined not to operate the docks by the Government itself, but to lease them to private parties who will manage and control them under Government auspices and Government regulations for a fixed rental to the Government. The proposed regulations and terms for this lease are now in course of preparation.

PROPOSED INTERNATIONAL EXPOSITION.

In view of the success of the National Exposition now being held in the metropolis of Brazil, the holding of an International Exposition in 1922 in Rio de Janeiro is contemplated for the purpose of celebrating the hundredth anniversary of the independence of the Republic.

RUBBER EXHIBITION IN LONDON.

A recent article in the British Trade Journal says, with reference to the Brazilian Rubber Exhibition, that it is the State of Amazonas which supplies the world with the lion's share of rubber, and that of the very best quality. This State was fully represented, and owed much

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to the energy and ability of the special commissioner, Mr. N. H. Witt. The whole industry had evidently been carefully analyzed geographically and statistically. In this section was a large biscuit of fine Para hard cure rubber weighing 262 kilos, produced in the upper Jurua River on one of the estates belonging to Messrs. Mello & Co., of Para and Manaos. Mr. J. Simar do Costa exhibited a choice collection of rubbers produced in Brazil, together with a map of the State of Para, showing the distribution of the various rubber plants and the relative quantity of rubber produced by the different municipal districts. In the Mexican court there was rubber sent by Mr. H. E. Levesley, consisting of dry and wet blocks, biscuits, crêpe, lace, etc.

AUTOMOBILE LINE IN RIO GRANDE DO SUL.

The Government of the State of Rio Grande do Sul has entered into a contract with João Correia & Bros. for the construction of an automobile road between Porto Mariante on the Taquary River and the town of Soledade, for the establishment of an automobile freight and passenger service. A section of the road extending from Mariante to Venancio Ayres is nearly completed and it is expected that the service will be inaugurated on this section within the next few months. The orders for the automobiles have been placed with a Leeds firm.



PERSONNEL OF THE CABINET.

The members of the new Chilean Cabinet are as follows: Minister of the Interior and President, Señor Don Javier A. Figueroa; Minister for Foreign Affairs, Señor Don Rafael Balmaceda; Minister of Justice and Public Instruction, Señor Don Eduardo Suarez Mujica; Minister of Finance, Señor Don Pedro N. Montenegro; Minister of War and Navy, Señor Don Aníbal Rodríguez; Minister of Industry and Public Works, Señor Don Guillermo Echavarría.

CUSTOMS RECEIPTS FIRST HALF OF 1908.

The total customs receipts of Chile during the first half of 1908 were 71,691,723 pesos, as compared with 53,217,430 pesos during the same period of 1907. These totals consist of import duties to the amount of 20,748,198 pesos, export duties of 31,783,921 pesos, and sundry receipts of 18,790,410 pesos, as compared with import duties of 26,421,066 pesos, export duties of 25,433,979 pesos, and sundry receipts of 1,362,385 pesos, such as storage, surcharges, wharfage, etc.,

during the first half of 1907, or an increase during the first half of 1908, as compared with the same period of 1907, of 18,474,293 pesos. The export duties consisted of duties on nitrate and iodine amounting to 31,630,712 pesos, and 153,209 pesos, respectively, as compared with 25,197,837 pesos and 236,142 pesos, respectively, on the same products in 1907. The import duties on merchandise during the first half of 1908 were 20,748,198 pesos, 113,576 pesos surcharges, and 255,618 pesos on postal packages, as compared with import duties on merchandise of 25,798,513 pesos, surcharges 102,658 pesos, and postal packages 519,895 pesos during the same period of 1907.

RAILWAYS UNDER CONSTRUCTION JUNE 30, 1908.

On June 30, 1908, there were 945 kilometers of Government railways under construction in Chile, consisting of 302 kilometers of the Longitudinal Railway, 114 kilometers of branch lines to the cordillera, and 529 kilometers of branch lines to the coast.

BIDS FOR THE CONSTRUCTION OF CHILEAN RAILWAYS.

The Government of Chile has requested bids for the construction of the following new sections of railway: From the port of Arica, on the coast of Chile, to alto de La Paz, the capital of Bolivia, an extension of about 460 kilometers; from La Ligua to Copiapo, an extension of approximately 680 kilometers—all within the Republic of Chile.

The approximate cost price of the extension of this section of the Arica La Paz Railway is \$15,000,000.

For the construction of the entire railroad line from La Ligua to Arica the Government has appropriated about \$37,500,000. The bids advertised for are only for a section of this railroad.

The estimated cost of Government railroads under construction, and for which contracts are about to be let, aggregates over \$60,000,000, not including several millions for equipment, etc. All these lines will be completed within the next five years.

Proposals should be addressed to the Minister of Public Works, Santiago, Chile, or to the Legation of Chile, Washington, D. C.

The Legation at Washington will furnish all particulars to contractors desiring to bid upon the work. The date for opening the bids by the Minister of Public Works in Santiago, Chile, is February 1, 1909, for the La Ligua-Copiapo Railway, and March 1, 1909, for the Arica-La Paz Railway.

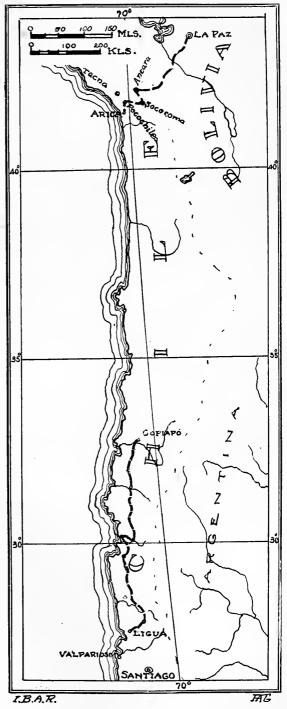
REVENUES AND EXPENDITURES FIRST HALF OF 1908.

The revenues of the Republic of Chile from January to July, 1908, amounted to \$183,072,283.08 national currency, and \$38,794,758.75

gold of the value of To these sums 18d. must be added the balance on hand at the end of 1907, consisting of \$25,317,125.87 national currency and \$33,654,463.44 gold of the value of 18d., making the total funds at the disposal of the Government during the six months referred to \$208,389,-408.95 national curand \$72,449,rency 402.19 gold of the value of 18d. The expenditures of the Government during the half year in question were \$156,545,270.78 national currency and \$32,266,086.23 gold of the value of 18d., leaving a balance on hand in August, 1908, of \$51,844,138.17 national currency and \$40,-183,315.96 gold of the value of 18d.

EXPORT DUTY ON SILVER BULLION.

The "Diario Off-cial" of August 13, 1908, publishes a law promulgated on the 10th of the aforesaid month, imposing an export duty of 40 per cent on the val— of silver bullion assaying 0.5 or less.



CONSTRUCTION OF WHARF AND BREAKWATER AT TALTAL.

The Chilean Government has contracted with Camilo Donoso for the construction of a wharf and breakwater at Taltal. The work, which will cost \$247,249 gold of the value of 18 pence and \$160,850 national currency, is to be completed within two years. Taltal is an important port in the province of Antofagasta, and a shipping point for nitrates and ores.

CONSERVATION OF FORESTS.

In a special message to Congress the President of Chile has called attention to the wasteful methods employed in exploiting the forests of the southern part of the Republic and has recommended that the municipal law governing the cutting of timber, the burning of underbrush, and the clearing of communal lands be amended so as to avoid the bad effects of the improper exploitation of this important branch of the national industry.

POPULATION IN 1907.

A correction has been made by the Census Bureau to the population of the Department of Caupolican, Chile. Said department, which at the time of taking the census was reported as having 74,237 inhabitants, is now corrected to 75,105. This makes the total population of the Republic, on November 28, 1907, 3,249,092 souls.

CONSTRUCTION OF WATERWORKS IN VARIOUS CITIES.

Waterworks are now being constructed by private contractors in the cities of Quilpue, Ligua, Chincolco, and Chillan, Republic of Chile, at a total cost of \$400,330.38 national currency and \$377,932.53 gold of the value of 18 pence. Improvements are being made in the waterworks of the cities of Serena and San Felipe aggregating a total expenditure of \$59,971 national currency and \$19,467 gold of the value of 18 pence. Similar improvements to the amount of \$5,890 national currency are being made under the direction of the Government at Rengo and Serena.

NITRATE INDUSTRY.

The estimated production and exportation of nitrate in the Republic of Chile for the nitrate year beginning April 1, 1908, and ending March 31, 1909, based on 53 per cent of the original quotas established for each nitrate office, is 4,194,658,200 pounds and 4,545,232,300 pounds, respectively.



RATIFICATION OF VARIOUS CONVENTIONS.

THE SANITARY CONVENTION OF WASHINGTON.

The National Assembly of the Republic of Colombia ratified on August 21, 1908, the Sanitary Convention ad referendum concluded in Washington on October 14, 1905, which Convention was signed by the delegates of Colombia to the Third Pan-American Sanitary Congress, held in Mexico in December, 1907. For the purpose of carrying into effect the provisions of this Convention, a sanitary, maritime, and terrestrial police force has been established in the Republic. This force consists of the Central Hygienic Board, the departmental hygienic boards, the port health inspectors, the health physicians, the directors and their assistants at the sanitary stations, and the necessary employees to carry out the provisions of the Convention.

The decree provides that the Executive shall establish the requisite sanitary stations in the ports of Cartagena and Buenaventura, each one of which shall consist of an isolating hospital, disinfecting apparatus, bacteriological and chemical laboratories, and the other neces-

sary things for carrying into effect sanitary measures.

The general regulations in regard to maritime sanitation shall be issued by the Central Hygienic Board. The local sanitary regulations applicable on shore shall be issued by the departmental hygienic boards. Both these boards shall have direction of the sanitary works in their respective localities, subject in all cases to the stipulations of the Washington Sanitary Convention and to the legal provisions now in force concerning sanitation. It shall be a part of the duties of the Central Hygienic Board in the capital of the Republic and the departmental hygienic boards in other parts of the country to establish and conduct offices for the disinfection of contagious diseases.

CONVENTIONS RELATING TO FOREIGNERS AND THE STATUS OF NATURAL-IZED CITIZENS.

The National Assembly of the Republic of Colombia ratified on August 19, 1908, the convention relative to the rights of aliens, concluded in Mexico in 1902 at the Second International Conference of American States. The convention establishing the status of naturalized citizens who again take up their residence in the country of their origin, concluded on August 13, 1906, at the Third International Conference of American States held in Rio de Janeiro, was also ratified by the Congress of Colombia just before the adjournment of the recent session in August, 1908.

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The National Constituent and Legislative Assembly of Colombia ratified on August 19, 1908, an industrial property convention between Colombia and Great Britain, and a treaty of amity and commerce with Switzerland. The Congress of the Republic has also ratified the convention between Colombia and Ecuador supplementing the boundary treaty; the convention modifying the supplementary convention to the concordat made between the Minister of Foreign Affairs and the Apostolic Delegate concerning the fulfillment of article 25 of the concordat; a treaty of amity and commerce with



PRINCIPAL PLAZA, BOGOTA, COLOMBIA.

Plaza Bolivar is the principal square of the capital of Colombia. In the center of a garden of flowers, shrubs, and trees is a handsome statue of Gen. Simon Bolivar, the liberator of five South American republics. The capital, municipal building, and cathedral are built around this square.

Japan; the convention on pecuniary claims concluded at the Third International Conference of American States, held in Rio de Janeiro, Brazil, in 1906, and the convention of Mexico on the same subject signed at the Second International Conference of American States in the City of Mexico in 1902, as well as the convention on the exchange of official publications, also concluded in the Conference at Mexico.

COMMERCE WITH NEW YORK FIRST HALF OF 1908.

The total exports of Colombian products to the port of New York during the first half of 1908 were valued at \$3,009,080, while the im-

ports of merchandise shipped from New York to Colombia amounted to \$1,759,128, or a balance of trade in favor of Colombia, for the period mentioned, of \$1,249,952. During the period referred to Colombia forwarded to the port of New York 10,444,625 kilos of coffee, as compared with 7,889,482 kilos shipped to New York during the first half of 1907. From January to June, inclusive, 1908, the hides shipped from Colombia to New York were valued at \$407,139, as compared with \$403,908 in 1907. The shipments of hats from Colombia to New York during the first half of 1908 amounted to \$188,936, as compared with \$116,764 in 1907. The shipments of bananas consigned from Colombia to the port of New York during the first half of 1908 were valued at \$234,392, as compared with \$143,829 in the same period of 1907.

SCHOOL HISTORY OF THE REPUBLIC.

The Department of Public Instruction of the Republic of Colombia has contracted for the purchase of 10,000 copies of the revised edition of the school history of Colombia, entitled "Compendio de la Historia Patria," for use in teaching the history of Colombia in the schools of the nation.

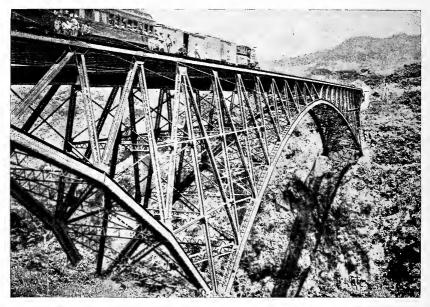


COMPLETION OF THE PACIFIC RAILWAY.

The Congress of Costa Rica on August 31, 1908, approved a contract made by the President of that Republic with Warren H. Knowlton, an American citizen, for the completion of the Pacific Railway between San Jose and Puntarenas. The section of this railway still to be built, in order to establish interoceanic communication, is 12 miles long.

Referring to this contract Mr. WILLIAM LAWRENCE MERRY, the American Minister to Costa Rica, says that the price to be paid is half a million dollars United States gold and the period for construction fifteen months, failing in which the contractor must pay a forfeit of \$2,000 per month, and the Government agrees to pay a bonus of the same amount for each month less than the stipulated time agreed upon. Only one short tunnel and one important bridge will be necessary, and the grade of the part to be constructed is very easy. With the completion of this railway Costa Rica will have an interoceanic transit 170 miles in length, divided as follows: Atlantic section, Port

Limon to San Jose, 103 miles; Pacific section, San Jose to Puntarenas, 67 miles. The Atlantic section is owned by "The Costa Rica Railway Company," an English corporation, and is leased to the "Costa Rica Northern Railroad," an American corporation owned by the "United Fruit Company." The Pacific section is owned by the Costa Rica Government. Both roads are 3 feet 6 inches gauge and well constructed, with steel and iron bridges. Each road has one short tunnel. The summit is at El Alto, 2 miles west of Cartago and 5,040 feet above sea level. The grades are unavoidably heavy in places, and there are many short curves, especially on the Atlantic



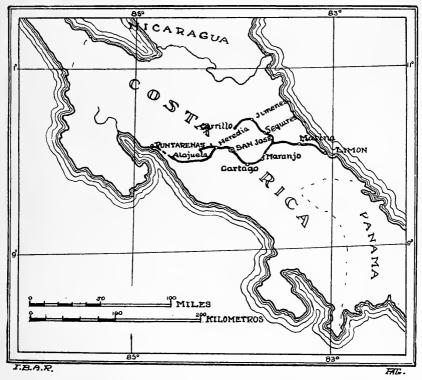
A RAILWAY TRESTLE IN COSTA RICA.

The Pacific Railway of Costa Rica is 170 miles long, and only lacks 12 miles of construction in order to connect the Atlantic with the Pacific coast from Port Limon to Puntarenas by way of the capital, San Jose. It traverses one of the richest tropical and subtropical portions of the Republic, noted for the luxuriance of its vegetation and the beauty of its scenery. Some of the railways of Costa Rica are under direct governmental control, and all of them penetrate exceedingly productive agricultural regions, capable of supplying an immense tonnage of natural and cultivated products.

division. Both roads are maintained in good condition, with suitable stations and side tracks. The terminal at Port Limon has two large wharves, which can accommodate 6 large and 2 small steamships. The terminal at Puntarenas has an iron wharf which has only 15 feet water at its end at low tide. Puntarenas is a much better harbor than Port Limon, and an extension of the wharf to the 6-fathom curve will enable heavy steamships to lay comfortably alongside the wharf. At present cargoes at Puntarenas are handled in lighters.

Owing to its altitude, narrow gauge, and heavy grades, the Costa Rica railway transit can never become an important factor in inter-oceanic transit, competing with Panama, the Tehuantepec Railway, and still less so in competition with the Panama Canal. But it is built

through a beautiful country, and will be attractive to passengers who have passed over the other transits, and will aid the Government in regulating the rates of freight by rail to the Atlantic coast, especially on exports. The German Cosmos Line of freight steamships, which covers the route via the Strait of Magellan to San Francisco and Vancouver, has established low rates on Central American products to Europe. With a fair rate on through bills of lading from San Jose, coffee and other freight can be landed in Europe at lower rates than are now being charged, via Limon, to Europe, or via New Or-



leans, provided prompt delivery is not a factor; and on most freight, except fruits, a delay of thirty days is not of great importance, being only a question of interest charges.

Already the healthy and invigorating climate of the Costa Rica table-lands is attracting many visitors from the Panama Canal Zone, hotel accommodations at Cartago and San Jose being now inadequate. The completion of the railway to the Pacific will facilitate this travel and aid in the development of the Pacific slope of Costa Rica.

There are now five interoceanic railways in the United States and another under construction north of them. Besides this, Mexico, Guatemala, and Panama have transits, and that at Costa Rica will make the tenth between the Atlantic and Pacific north of the Isthmus. These transits will not decrease the traffic through the canal, but will

greatly aid it by the development they will produce. And in Central America every new railway is an aid to peaceful relations between the Republics and to the prosperity of their inhabitants. By January, 1910, the new interoceanic Costa Rica railway transit will probably be completed. The present Government of the Republic is to be congratulated upon a public improvement which promises so much to its people.

REVENUE FOR THE PRIMARY SCHOOLS OF THE REPUBLIC.

In order to provide the educational boards of the Republic with additional revenues to meet the increasing expenses of the primary schools, the Constitutional Congress of Costa Rica, under date of September 24, 1908, passed a law establishing a revenue to be known as the "National Fund of Education," irrespective of those previously prescribed by law. The said fund will consist of the receipts derived from a tax of 10 cents of a colon on every liter of alcohol and other liquors sold in the National Factory and its branches.

ESTABLISHMENT OF A NEW BANK.

Under the name of "Banco Mercantil de Costa Rica," a new banking institution has recently been established and is being conducted with success in the capital of the Republic. The capital of the new bank is 1,000,000 colones (\$500,000), divided into shares of 100 colones each, over one-half of which has already been subscribed for.

PROPOSED EXPORT DUTY ON BANANAS.

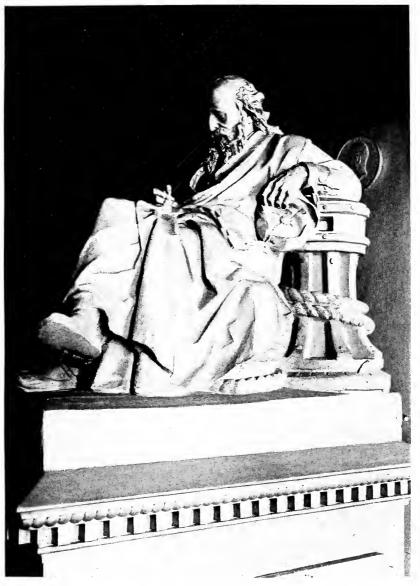
On October 2, 1908, the Executive of the Republic of Costa Rica submitted to the consideration of Congress a bill taxing the banana industry with a duty of 1 cent American gold on every bunch of the fruit exported through the ports of the country. This duty is to be in force from the date of the promulgation of the law until the 29th of October, 1920, provided the United Fruit Company renounces, before the Executive, the free exportation to which it is entitled by virtue of the decree of October 29, 1900.



POPULATION IN 1907.

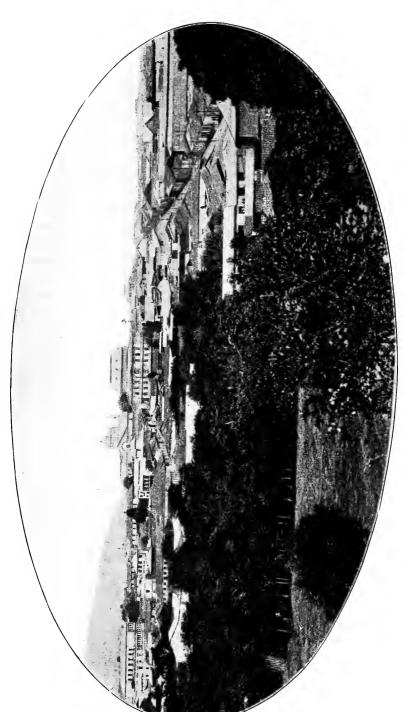
The population of Cuba by provinces, according to the census made by the Provisional Government of the island in 1907, was as follows:

Camaguey	110, 200
Hayana	538,010
Matanzas	239, 812



COLUMBUS IN CHAINS.

This beautiful statue by Vallmitjana, the most noted of modern Spanish sculptors, is a model in clay presented by Gabriel Millet to the Sociedad Económica of Havana in 1881. It pictures Columbus at the age of 60 years, and represents the great navigator in chains, on his way to Spain. The calm dignity of his bearing is overshadowed by the expression of his countenance, depicting great mental anguish, deep melancholy, and resignation to the disappointments of his last years.



SAN JOSÉ, COSTA RICA.

San José de Costa Rica, the capital and commercial center of the Republic, lies in a fertile valley 3,868 feet above the level of the sea. Its excellent climate, well paved streets, beautiful parks, and magnificent public and private buildings, surrounded by a luxuriant growth of subtropical flowers and trees, make it one of the most delightful capitals of Latin America. It has a good water supply and is well lighted. San José is connected by rail with Port Limon on the Atlantic coast and will soon have railway communication with Puntarenas on the Pacific. The city will entertain The Fourth International Sanitary Convention in December, 1909.

Oriente Pinar del Rio Santa Clara	240, 372
Total	2, 048, 980

In 1899 the population was 1,572,797. This shows an increase in 1907 of 476,183. The census reports will soon be published in Spanish in a volume copiously illustrated. A short abstract of the census in English will probably follow the publication of the report in Spanish:

FOREIGNERS REGISTERED IN THE ISLAND.

According to the Official Gazette of the Republic of Cuba there were 6,954 foreigners inscribed on June 30, 1908, in the various registration offices of the Island who are entitled to vote. The registration by provinces was as follows: Pinar del Rio, 200; Havana, 4,101; Matanzas, 637; Santa Clara, 1,320; Camaguey, 168, and Oriente, 328. This registration shows that the majority of foreigners resident in Cuba live in the city and Province of Havana.

CHANGES IN THE TARIFF.

The following changes have been made on articles imported into Cuba:

Vinegars: In casks, barrels, or half barrels, per hectoliter, \$3. In bottles, demijohns, or other like receptacles, \$9. These changes affect paragraph 281 of the customs tariff.

Vinegars not mentioned in decree 44, of February, 1904, or in the reciprocity treaty, are exempt from all surcharges, and if a product of the United States, have the benefit of the 20 per cent specified by the reciprocity treaty.

Saffron, sunflower, and flowers of tobar, under article 282, ad valorem, 25 per cent.

Cinnamon of all kinds, cloves, pepper, nutmeg, under article 283, ad valorem, 25 per cent.

Decree SS9, of September 9, 1908, amended to read:

- "That a clause be added to paragraph 127 to read as follows:
- "Bags for packing sugar at the sugar mills or refineries, made of cotton tissue, plain and without figures or twilled, whatever may be the number of threads thereof and the weight per 100 square meters, whenever they should be imported indelibly marked with the name of the sugar mill or refinery and place where the same is located, N. W., kilo, 9 cents.
- "Note: The bags referred to are hereby exempted from the surtax for making up and also from the surcharge provided for in decree No. 44 of February 1, 1904.
- "This decree shall take effect thirty days after its publication in the Official Gazette."

The third decree was in reference to vessels, as follows: .

"The duties on ships include likewise those levied on anchors, kedges, cables, and chains, barometers, chronometers, binnacles, compasses (loose and fixed), speaking trumpets, telescopes, casks, cordage, sails, and masts, necessary for the maneuvers and safety of vessels, with due regard to their class.

"The following articles will likewise be included in the duties levied on said vessels—that is, those imposed upon dynamos and lamps for electric lighting on same, as well as those corresponding to the glassware, crockery, knives, forks, and spoons, table and bed linen, and kitchen utensils for the exclusive use of said vessels, provided that said articles are proper and suitable, in quantity and quality, to the class and service of the respective vessels; that they are indelibly and conspicuously stamped or marked with the name of the vessel, and furthermore that said vessels are to be engaged in the coastwise trade. In cases where such articles lack or do not combine the necessary conditions aforesaid, same shall pay at all times the duties specified in the respective paragraph of the customs tariff.

"All other articles shall be subject to the payment of their corresponding duties.

"All laws, ordinances, and orders in conflict with the provisions of this decree are hereby revoked."



PRODUCTION OF CACAO IN 1907.

The Agricultural Review of the Dominican Republic estimates the production of cacao in 1907 at 30,000,000 pounds, of which 21,925,641 pounds were exported during that year. The exports of cacao from January to June, 1906, were 18,203,955 pounds, valued at \$1,212,760; the exports of the same product from January to June, 1907, were 14,703,281 pounds, valued at \$1,855,982, and the estimated exports of cacao from January to June, 1908, were 25,740,689 pounds, valued at \$2,778,913.

INCOME IN 1907.

The revenues of the Dominican Republic have greatly increased as compared with those of 1904. In the latter year only 18 per cent of the general revenues could be taken for the expenses of the nation, while in the former the Republic had at its disposal for public expenses 60 per cent of the gross revenues collected. In other words, while the general income of the Government in 1904 was only \$1,864,755.01, this income rose in 1907 to \$3,830,852.55, or nearly \$4,000,000.

NEW ISSUE OF POSTAGE STAMPS.

The President of the Dominican Republic has authorized an issue of postage stamps of the *escudo*, "T," and official series in the following quantities and denominations: *Escudo* series, 500,000 halfcent, 1,200,000 2-cent, 500,000 5-cent, and 150,000 10-cent; "T" series, 50,000 2-cent, 50,000 4-cent, 100,000 6-cent, and 50,000 10-cent; official series, 500,000 2-cent, 100,000 5-cent, 100,000 10-cent, and 100,000 20-cent.



RAILWAY FROM HUIGRA TO CUENCA.

On August 6, 1908, the survey of the Huigra and Cuenca Railroad was commenced by Morley & Altenberg, the contractors, as the preliminary steps toward the construction of the line in accordance with a contract made by the Government of Ecuador on February 7, 1907. The Consul-General of the United States at Guayaquil states that the railway will start from Huigra, which is 72 miles from Guayaquil, at an elevation of 4,000 feet above sea level, and will run from there to Cuenca, which is located at an elevation of 8,500 feet, crossing the Azuay Range through the valley along the river Augas, and will pass through a cultivated and well-populated district. The distance from Huigra to Cuenca is about 92 miles.

The general direction of the railway is from north to south, and at a distance of 50 kilometers from Huigra it intersects the intercontinental survey, following the same, with slight changes, to Cuenca. At Biblian, a distance of 115 kilometers from Huigra, the railway will pass through a district said to contain great quantities of coal, which, it is reported, was thoroughly examined by competent mining engineers in 1902 under the direction of Sir James Sirewright, at that time Managing Director of the Ecuadorian Association, Limited, of Edinburgh and London, which association had contracted with the Guayaquil and Quito Railway Company to construct the railway from Guayaquil to Quito. These mining engineers reported the finding of enormous quantities of a good quality of coal. Although the construction of a railway from Huigra to the coal district was advocated by the Board of Directors of the said association, its affairs became complicated, and, therefore, it could not undertake the work, and later forfeited all its rights to these coal lands which were afterwards acquired by others.

In 1906 an arrangement was made between the owners of said lands and EDWARD MORLEY, whereby they agreed to accept 25 per cent of the stock in a coal company to be formed for all their rights and titles to the lands, so that the railway company could own and control the entire output of coal, such an arrangement, however, being subject to the building of a railway from Huigra to Cnenca, passing through the coal lands.

The maximum grade of the line is $3\frac{1}{2}$ per cent, and the road will run through 10 kilometers of forest said to contain a good quality of durable timber, which the promoters expect to use for ties and also for timbering the coal mines.

Mr. Morely has made the preliminary survey of the line and delivered the plans to the Government, which has credited him with \$80,000 in bonds, as per decree dated August 1, 1908.

It is said that the Government has also agreed to retain \$75,000 as the equivalent of the \$75,000 called for as the guarantee deposit, which the promoters are required to make with the Government.

It is expected that this line will prove in time to be a very important railway, since in addition to being one of the links of the Intercontinental Railway it opens up the vast southern plateau of Ecuador to exploitation and places the city of Cuenca (the third city of Ecuador) into railway communication with Quito and Guayaquil.

At present all coal used in Ecuador is imported at high prices, which, by means of the Guayaquil and Quito Railway Company, can later on be delivered to the interior towns as well as at the port of Guayaquil at a moderate price.

PLAN FOR PROMOTION OF AGRICULTURE AND STOCK RAISING.

The Government of Ecuador, through its Minister of Agriculture and Finance, has recommended the establishment by Congress of boards of agriculture in the cities of Quito, Guayaquil, and Cuenca. These boards are not to consist of over 9 persons, who will hold office for two years, and whose duty it will be to work in conjunction with the Government for the promotion of agriculture, the development and improvement of the raising of stock, the irrigation, planting, and fertilizing of lands, the harvesting of crops, and the improvement of the means of communication, the expenses of the work of the boards to be paid from funds appropriated for that purpose in the budget. The importation of useful seeds, plants, and animals will be encouraged, and premiums will be offered for the best results obtained in the agricultural and stock-raising industries of the Republic. The plan also comprises the founding of agricultural schools and meteorological observations.

BIDS FOR QUAYAQUIL SANITATION WORKS.

The "Junta de Canalizacion y Proveedora de Aguas de Guayaquil" (the Sewerage and Water Supply Board of the City of Guayaquil, Ecuador, South America) informs intending bidders that in view of the urgent requests from several European and American bidders they have resolved to postpone the opening of the bids for the Guayaquil sewerage and paving works until April 1, 1909.



THE SPECIAL ENVOY OF GUATEMALA PRESENTS HIS CREDENTIALS.

Señor Don Juan Barrios Morales, Secretary of State of Guatemala, was received by President Roosevelt as Envoy Extraordinary and Minister Plenipotentiary on special mission, on November 2,

1908. The object of his mission is stated in his address to the President, which is as follows:

EXCELLENCY: It affords me peculiar pleasure to be honored by placing in your hands the autographic letter by which the President of the Guatemalan Republic has been pleased to accredit me Envoy Extraordinary and Minister Plenipotentiary in special mission before the illustrious Government over which Your Excellency so worthily presides.

My Government has constantly received from the wonderful country of Washington remarkable evidences of fraternal and kindly regard, and I do not need to recall either the conference of the *Marblehead*—the last celebration in this capital—the sympathy expressed upon the death of my predecessor, Señor Muñoz, or the very many other instances which are all impressed on the heart of my country.

Guatemala and its highest Magistrate can never forget, and ought never to forget, Mr. President, the eloquent demonstration of sincere and loyal friendship which he received on the occasion of the special mission intrusted to His Excellency Major-General Davis, who, by his presence and high position, gave importance and brilliancy to the greatest undertaking which has been accomplished in Central America by an American Company and with American capital—the transcontinental railway of Guatemala.

As the humble fellow-worker with my chief, President ESTRADA CABRERA, I have had daily occasion to feel, Mr. President, the benefits of the existing peace in Central America in the accomplishment of which the efforts of your altruistic Government have played so important a part.

In order to reciprocate these friendly sentiments and to make known to you the lively gratitude of the President and Government (of Guatemala) for this long series of exhibitions of sincere and unqualified regard, the mission of cordiality and sympathy intrusted to me has been undertaken; and, in fulfiling that mission and in having the pleasure of greeting you and congratulating you upon the wisdom with which you are directing the destinies of this great Republic, permit me to express the ardent desire which animates my Government that the ancient ties and loyal friendship which happily bind and have always bound the United States of America and the Republic of Guatemala may be augmented and strengthened more and more and day by day.

Be pleased to graciously accept, Mr. President, the cordial wishes which, in the name of the people and the Guatemala Government, I offer you for the happiness of the people and Government of the United States of America, and for your personal welfare.

To which the President replied:

Mr. Minister: It is a pleasure to receive from your hands the letter of your President accrediting you as Envoy Extraordinary and Minister Plenipotentiary on special mission before this Government.

It has been gratifying to the Government of the United States to avail of the opportunities you cite to give expression to its well-known impartial and sincere friendship for the Government of Guatemala and its sister Republics, and to show its earnest desire that the Republics of Central America may continue to enjoy the inestimable blessings of peace. I, therefore, cordially welcome you, Mr. Minister, in your congenial mission to demonstrate the appreciation of your President and Government for the fraternal interest shown to your country.

The Government of the United States earnestly shares in the desire you express for increasingly closer bonds of friendship between the two countries,

and for the continuance of the present mutual regard and confidence, and in conveying this assurance to your President I ask you also to extend to him my sincere wishes for the advancement and prosperity of Guatemala and for his personal welfare. I hope, Mr. MINISTER, that you will have an agreeable visit in this capital.

NATIONAL DECAUVILLE RAILWAY.

On July 31, 1908, the President of Guatemala approved the contract made by the Secretary of Fomento (Interior) with Señor RICARDO SANCHEZ D., concerning the exploitation and maintenance of the National Decauville Railway. Under the terms of this contract the concessionaire agrees to extend, at its own expense, the service of the National Decauville Railway, and to construct a branch line of this same road to leave the main line at Reforma, pass through Guadaloupe, and terminate at Pamplona, the construction to be completed as quickly as possible. The concessionaire also agrees to extend the main line, passing through Central Penitenciaria street in the capital of the Republic, to Eighteenth street. The concessionaire agrees to transport, free of charge, such fuel and materials as may be needed in the construction and repair of the public works of the Government, and to grant free passage over its line to the civil and military employees of the Government, as well as to the professors of the boys' manual training school.

The life of the contract is three years from the date of its approval by the Chief Executive, during which time the concessionaire agrees to maintain the line in good condition, together with its rolling stock. The present freight and passenger tariff is to continue in force and shall not be altered without the written consent of the Secretary of Fomento. Trains must be run hourly on Sundays and holidays and at such intervals of time on secular days as the exigencies of the traffic may demand.

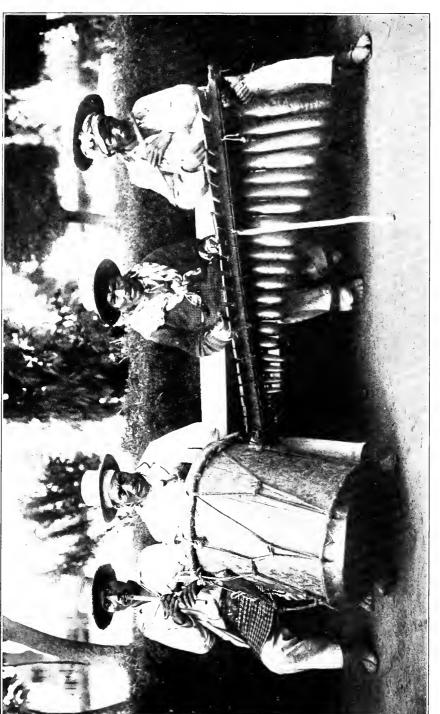
SANITATION OF PUERTO BARRIOS.

The Government of Guatemala has contracted with the Guatemala Railway Company to do certain work intended to improve the sanitary condition of Puerto Barrios, a port that is destined to become, at no distant date, one of the most important, if not the most important, maritime port of the Republic. The plan of these works includes the clearing of timber, freeing of weeds, and cleaning of the land from the water front to the adjoining town and immediate neighborhood, as well as the draining, by natural levels, in so far as possible, of such stagnant water as may have collected on the lands, the supplying of the town with potable water, the erection of a galvanized-iron tank 20 feet above high tide, with a capacity of 5,000 gallons of water, and supplied with sufficient tubing to connect it with the custom-house



AN INSPIRING SCENE IN GUATEMALA.

The volcanoes in the distance are called "Fuego" (Fire) and "Agua" (Water), and are 12,197 and 13,487 feet, respectively, above the level of the sea. Nestling peacefully at the base of these passive giants of the cordillera is the tranquil volcanic lake of Amatitian. The plantation in the foreground, with its iertile fields and wealth of vegetation, is typical of the temperate zone of the Republic.



THE MARIMBA AND ITS ACCOMPANIMENTS IN GUATEMALA.

The marimba is a musteal instrument, consisting of a frame about 8 feet long and 29 inches high, supporting thirty strips of hard wood, beneath each of which is a wood-in resonator duly proportioned for bones. The notes from this instrument are clear and agreeable, and the music is always attractive, especially when accompc...led report fie and drum. It is a favorite musical instrument in the rural districts of Gualemaia.

and other prominent buildings at and near the beach. The lowlands and ponds that can not be easily drained will be filled with earth.

The plan comprising the carting away to a safe distance of bottles, old pieces of glass, and other objects that are capable of holding water, to prevent them from becoming a breeding ground of mosquitoes; the condemning or removing of all barrels or tanks that are not well protected with wire gauze, and the covering of the waters of undrained and unfilled ponds in the vicinity with oil, in order to secure their disinfection and to prevent the hatching of mosquitoes. The cost of these works is to be borne by the Guatemala Railway Company, which will be reimbursed by the Government in custom-house certificates to the value of \$10,000 gold, said certificates being receivable in payment of duties on merchandise or materials subject to duties imported by the Guatemala Railway Company and the United Fruit Company. These certificates will bear interest at the rate of 6 per cent per annum.

IMMIGRATION AND COLONIZATION.

For the purpose of studying the important questions relating to immigration and colonization, and with the object of attracting new currents of immigration to Guatemala, President Cabrera has ordered the establishment of an Immigration and Colonization Committee under the direction of the Department of Fomento. This committee is composed of the heads of the bureaus of Agriculture, Mining, Manufactures, Commerce, and Statistics, and three civilians appointed by the President. The committee commenced its work on September 15, 1908.

LEASE OF GOVERNMENT LANDS.

The Government of Guatemala has leased to Guillermo Marroquin for a term of five years, with the privilege of renewing the lease if agreeable to both parties in interest, a strip of Government land $2\frac{1}{2}$ leagues in width on the right bank of the Usumacinta River, a strip of equal width on both banks of the San Pedro, Santa Isabel, Pasion, and Chixoy or Salinas rivers, in that part of their courses which run through the departments of Peten, Alta Verapaz, and Quiche. The lessee agrees to pay to the Government 5 pesos (\$2) for each tree cut, 2.50 pesos (\$1) for each 480 superficial feet of mahogany and 10 pesos (\$4) for each log of wood exported.

AGRICULTURAL AND MORTGAGE BANK.

In July, 1908, the subscribed capital of the Agricultural and Mortgage Bank of the Republic of Guatemala was 8,000,000 pesos (\$3,200,000), and the reserve fund 1,019,000 pesos (\$407,600). Out of a total issue of 4,652,700 pesos of the bank notes of this institution, there were in circulation 3,672,477 pesos in the month referred to. The interest-bearing deposits of this bank in July, 1908, amounted to 2,389,379.06 pesos.

MODIFICATION OF A TIMBER AND RUBBER CONCESSION.

The concession granted by the Government of Guatemala on October 18, 1906, to José Wer, authorizing him to cut timber and gather rubber and chicle in the Department of Peten, has been modified so as to permit him to extract rubber, chicle, and all sorts of resins within the following limits: To the north, parallel 17° 49′ from Paixban to the vertex of Belice; to the east, from the vertex of Belice to the Plancha de Piedra; to the south, from the latter point to San Andres, and to the west, from that point to Paixban. The concessionaire renounces the right to extract rubber and chicle within 6 miles from either side of the Pasion River, from Paso Real to Canquen. The contract is valid for five years, and may be extended for another period of five years by the mutual consent of the parties in interest.

STATUE TO JOSÉ BATRES MONTÚFAR.

President Manuel Estrada Cabrera has issued a decree authorizing the erection of a statue in the capital of the Republic to the eminent Guatamalan poet, Don José Batres Montúfar, on the occasion of the centennial of this celebrated writer's birth. In accordance with this decree a bronze bust of the immortal author of the "Traditions of Guatemala" will be unveiled in the plaza of the Colon Theater, in the city of Guatemala, on the 19th day of March, 1909. Copies of the works of this illustrious patriot will be distributed on that day to the participants in the ceremonies given in his honor.

TIMBER EXPLOITATION IN THE DEPARTMENT OF PETEN.

The Government of Guatemala has granted to Juan B. Padilla the exclusive privilege to exploit for a period of five years from July 28, 1908, the precious woods, rubber, and chicle found on certain Government lands in the Department of Peten, on the Mopan, Chucubul, and the Viejo rivers. The concessionaire agrees to employ exclusively Guatemalans whenever possible in the exploitation of the lands referred to, and to pay into the National Treasury 5 pesos (\$2) for each mahogany or caracolillo tree and 2.50 pesos (\$1) for each cedar tree felled, and to pay in addition 0.25 peso (\$0.10) for each quintal of dyewood gathered, 2.50 pesos (\$1) for each quintal of rubber, and 0.25 peso (\$0.10) for each quintal of chicle gathered.

EXTENSION OF A CONCESSION FOR THE FREE IMPORTATION OF CONSTRUCTION MATERIAL.

The concession granted to Herman H. Klanke on March 11, 1908, authorizing him to import free of duty the materials, furniture, etc., necessary for the construction and furnishing of a modern hotel at the port of Livingston on or before July 31, 1908, has been extended to December 31 of the present year.



DEVELOPMENT OF THE TEXTILE INDUSTRY.

It is the policy of the Haitian Government to aid in every possible manner enterprises having for their object the development of the agricultural and industrial resources of the Nation, and with this purpose in view a concession was recently granted with the intention of encouraging the development of the textile industry of the Republic. Under the terms of this concession the concessionaire agrees to establish in the Department of the West, within a year from the date of the signing of the contract, a factory for the decortication of plants containing textile fabrics, with the privilege of establishing at a later date similar factories in other departments. The Government grants to the concessionaire for a term of forty years the right to gather textile plants growing on unoccupied public lands which have not been alienated hitherto, or which are not the object of future conveyances by the State, and has leased to the concessionaire at a low rental a considerable area of land for the cultivation of plants producing fiber suitable for use in the textile industry. The raw material indispensably necessary to the running of the machinery of the factory, such as coal, kerosene, and lubricating oil, will be admitted free of duty. The concessionaire agrees to pay into the Public Treasury of the Nation \$2 American gold for each ton of product exported.

TARIFF CONCESSIONS TO THE UNITED STATES.

By the law of August 19, 1908, the Government of Haiti has reduced the duty on cordage imported from the United States 25 per cent and on beer 66.67 per cent. The general rate on cordage, including the various surtaxes, is 3.10 gourdes, or 77.5 cents in United States currency; the reduced duty on cordage imported from the United States will therefore be 58 cents per 110 pounds. The duty on beer is similarly reduced from about 40 cents per case of 12 bottles and about \$2.50 per barrel to 15 and 90 cents, respectively, after allowing for wharfage and other special taxes. The above concessions form a part of the treaty recently concluded between Haiti and Germany.



RECEPTION OF MINISTER LAZO ARRIAGA, OF HONDURAS.

The new Minister from Honduras, Dr. Luis Lazo Arriaga, was received by President Roosevelt on October 21, 1908, in the presence of the Secretary of State, Hon. Elihu Root, and Assistant Secretary Bacon. On this occasion Minister Lazo Arriaga made the following address:

Mr. President: The President of Honduras has been pleased to appoint me as diplomatic representative of the Republic near the Government of Your Excellency, requesting me at the same time to do all in my power to maintain and further strengthen, if possible, the good relations that have always existed between our respective countries.

This mission is to me doubly gratifying, as I have always been a sincere admirer of this great Republic, and I am convinced that a good, frank understanding between our respective Governments can not fail to be mutually beneficial to both countries, and to promote peace, progress, and prosperity in Honduras.

In the discharge of my official duties, as well as in keeping with my personal inclinations and convictions, I will do all in my power, Mr. President, in a manner as satisfactory to your Government as to mine, hoping to gain thereby the confidence of Your Excellency and that of your Government, so that I may have your support in my endeavors to attain the ends I have stated.

On placing in your hands the letter accrediting me as Envoy Extraordinary and Minister Plenipotentiary, I have the honor to convey to Your Excellency the cordial greetings of President Dávila, and to join with him, his Government, and the people of Honduras in best wishes for your personal welfare, and for the continued prosperity of the United States of America.

To this the President replied as follows:

Mr. Minister: It gives me pleasure to receive from your hands the letter whereby your Government accredits you as its Envoy Extraordinary and Minister Plenipotentiary near the Government of the United States.

As I desire most heartily that peace, prosperity, and happiness may abound among the people of Honduras, and that the utmost cordiality of intercourse may subsist between the two countries, I shall be pleased at all times to give you my full cooperation, in every proper way, in all that may tend to the promotion of the welfare of your country and to the maintenance and strengthening of the ties of good relationship between it and the United States.

I thank you for the sentiments of good will to which you give expression on behalf of President Dávila and the Government and people of Honduras as well as of yourself; and I beg you to convey to His Excellency my own good wishes and those of this Government and people for his welfare and for the progress of Honduras under his administration.

SCHOOL OF AGRICULTURE AT DANLI.

For the purpose of encouraging the development of agriculture in the Republic the Government of Honduras will establish an agricultural school at Danli, a city of about 9,000 inhabitants in the Department of Paraiso. For the present the special object of this school will be the planting, cultivation, and curing of tobacco, but later on will include other branches of agriculture in its curriculum. The area of the Department of Paraiso is 1,500 square miles, and the population is estimated at 40,000. The entire department is an irregular mass of beautiful mountain peaks and chains containing numerous streams and well-watered valleys. The climate is exceedingly healthful, the mountains being clothed with forests of pine, and the valleys producing in great abundance fine crops of sugar cane, coffee, tobacco, and corn. It is also a good stock country, and cattle find plenty of excellent grazing land throughout this department, and especially in the northern part of the same. Hitherto the principal industry of this department has been mining, although agriculture has received a large share of attention, and stock raising prevails to a considerable extent in some localities.

The establishment of an agricultural school at Danli is, therefore, an exceedingly wise measure, and one that will tend to stimulate to a very great degree the development of the agricultural resources of that rich section of the Republic. The school will be supported by the State, and the Government will give a monthly allowance of 20 pesos to a certain number of pupils who desire to make agriculture their profession and who wish to take a course of instruction in the institution. Pupils desiring to enter the agricultural school at Danli must apply to the governors of their respective States or Departments, and must show that they have the necessary conditions and qualifications to follow the occupation of agriculture in the Republic. An excellent road runs from Danli to Tegucigalpa, and the internal communications of the Department of Paraiso are good, although at present inadequate for an extensive freight traffic. The Danli to Tegucigalpa road crosses the Rio Grande near Potrerillos over an excellent stone bridge of four arches. This bridge is 110 meters long, 7 meters wide, and its principal arch has a diameter of 25 meters. It is one of the best examples of bridge structure in Honduras, and shows the facility with which this immensely rich Department of Paraiso could be opened up to commercial traffic and its agriculture extended and developed by the building of more and better roads and the bridging of The tobacco of this province is noted for the deliciousness of its flavor and when properly cured for its rich coloring. The agricultural school at Danli meets a long-felt want, and will doubtless stimulate to a considerable degree the great industry of agriculture in all its branches.

APPOINTMENT OF THE PAN-AMERICAN COMMITTEE.

The United States minister to Honduras states that the Pan-American Committee of the Republic, appointed in conformity with the resolution adopted on August 13, 1906, at the Third International Conference of American States, held in Rio de Janeiro, Brazil, consists of the Assistant Secretary of Foreign Relations and Doctors Jerónimo Zelaya, Alberto A. Rodríguez, and Manuel S. López.

CONCESSION FOR AN ICE AND GASEOUS WATER FACTORY.

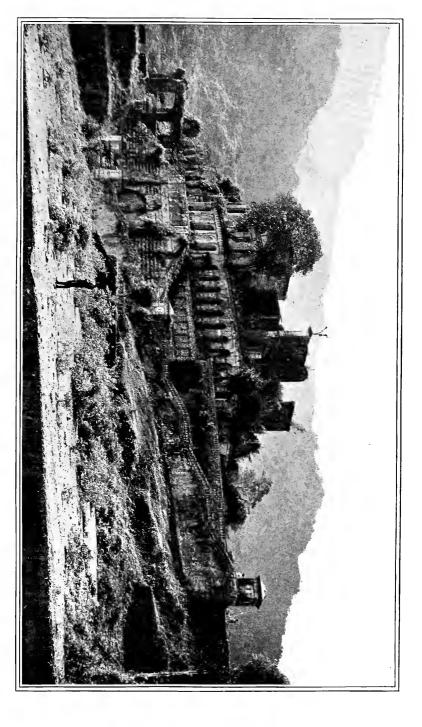
The Government of Honduras has granted a concession to Dr. Emilio Bock, authorizing him, or his representatives or assigns, to establish an ice and gaseous water factory at Roatan, or at any other town of the Department of Bahia of the islands that he may select. The machinery, apparatus, and supplies necessary for the establishment of the factory and the exploitation of the same are, under the terms of the concession, admitted to the Republic free of duty. The ice-producing capacity of the plant is to be 2,000 pounds daily. The work of construction must be begun within six months from August 20, 1908, and the plant must be in a condition to produce ice within one year from that date. The life of the concession is ten years.

CONCESSION OF A MINING ZONE.

A mining zone consisting of 100 hectares of land in the district and municipality of La Paz, Honduras, has been granted to Joseph G. Schumann, who will enjoy all the privileges conceded in such concessions in accordance with the provisions of the mining code now in force in the Republic.

LEASE OF LAND FOR THE CULTIVATION OF BANANAS.

The Government of Honduras has leased 500 hectares of public lands, situated in the District of Progreso, Department of Yoro, suitable for the cultivation of bananas, to Gen. RAFAEL LÓPEZ, who will pay an annual rental of 10 centavos for each hectare of bananas cultivated, and 25 centavos for each hectare of land used in the cultivation of other crops. The lessee is prohibited from cutting mahogany, cedar, or rubber trees unless he pays to the State 5 pesos for each tree felled.



RUINS OF THE PALACE OF SANS SOUCI, HAITI.

The historic palace of Sans Souci was built by Christophe, who governed Haiti from 1811 to 1820. It was a marvel of human achievement in his day, and was built on the side of a mountain, with a commanding view across the plain to the sea. Spacious stairways lead to the main entrance of the ruins, long since despoiled of its mahogany floors and rich adornments. Remains of the famous terraced gardens and fruit orchards are still to be seen in the reur of the structure. It was here, in October, 1820, that Christophe terminated his eventful life by his own hand.



RIVER FRONT, ASUNCION, PARAGUAY.

Asuncion, the capital and largest city of Paraguay, is situated on the east bank of the Paraguay River, about 650 miles from Buenos Aires, with which scaport splendid steamboat communication is maintained. The river at this point is something over 600 yards in width. Asuncion is one of the most important interior ports of South America, with a harbor capable of accommodating a commerce many times greater than is required by the present city.



TOBACCO INDUSTRY.

Recent statistics relating to the tobacco industry of Mexico show that the 995 tobacco factories of the Republic in 1907 produced 525,259,735 packages of cigarettes, 134,055,669 cigars, 164,308 kilos of smoking tobacco, and 27,800 kilos of snuff.

The cigarettes are done up in small rectangular packages containing from 14 to 16 cigarettes, and each package weighs from 18 to 20 grams, according to the variety of cigarette it contains. The small packages retail for from $2\frac{1}{2}$ to 5 cents each. There are larger packages, containing from 25 to 50 cigarettes, that are sold from 55 to 82 cents each.

The cigarettes are of very good quality, even excellent when they come from the more important factories, owing to the careful selection of leaves of different origin used for blending and also to the special care taken in washing the leaves of various kinds, which, while first of all cleaning them, also takes away the excess of nicotine so disagreeable in certain tobaccos manufactured elsewhere.

The Mexican cigar is generally good, and it is also expensive. A good cigar is worth about 13 cents, which is the usual price. The different colors are "Claro, Colorado claro, Colorado, Colorado maduro," which furnishes a gamut of tones running from light to very dark sepia. The Claro is quite mild, the Colorado maduro very strong, while the Colorado claro and Colorado are perfect.

The exports of Mexican cigars and cigarettes in 1907 were as follows:

	Kilos.
Great Britain	72,627
France	33,015
Panama	28,709
United States	23,596
Germany	15,201
Guatemala	5,756
Austria	1,418
The following were the exports of leaf tobacco:	
	Kilos.
Germany	
dorman,	812, 754
· · · · · · · · · · · · · · · · · · ·	812, 754 747, 543
· · · · · · · · · · · · · · · · · · ·	,
Belgium	747, 543
Belgium Great Britain	747, 543 33, 541

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In addition to the foregoing, 4,298 kilos of leaf tobacco, worth \$9,324, or about \$2.20 per kilo, were exported to Havana, nothwith-standing the fact that the Cuban Government levies a very high import duty of \$7.50 per kilo on foreign tobaccos shipped to the Republic.

PROPOSED NEW MINING LAW.

The distinguished Mexican statesman and financier, Señor José I. Limantour, Secretary of the Treasury of the Republic, in a recent interview explained that the business interests of America and Mexico will not be adversely affected by the enactment of the new mining law now under consideration by the Mexican Congress. Secretary Limantour said:

My opinion in regard to our relations with the United States is that they will be broadened, becoming each day more friendly, cordial, and sincere. There is nothing that could separate us from the line of conduct which we have observed for many years in this respect, now that in that Government ours always finds not only the effective compliance of the international duties, but also the greatest good faith and the firmest desire to aid and serve us in every way possible and not trespass the legal limits.

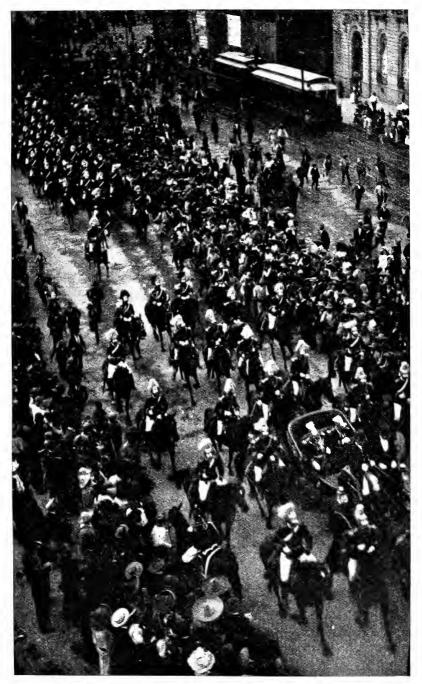
In truth I do not believe that there is any anti-American sentiment in Mexico. This only exists at times between some workmen and mechanics who believe themselves ill used. The ill feeling against foreigners which has been spoken of is more imaginary than actual.

If the depression has disturbed our merchants and our business men in general, in exchange it has given everyone an excellent admonition that in the future they should proceed in their operations with greater caution. This very depression has served to point out some defects which existed in our banking operations which, if it had not appeared, it would have been difficult to discover. While the situation was undisturbed and credit easy to get, everything seemed to be running perfectly without our being cognizant of those defects. When, however, the critical moment arrived the deficiencies of the system naturally showed themselves. To remedy these deficiencies the Treasury Department has deemed it necessary to issue the recent laws on credit institutions, and I am sure these measures will place us on a much more solid basis than formerly. These measures have been so efficacious that there exists no fear of anything grave or prejudicial happening in the conduct of business. We have not had any sensational failures; none of the banks found itself in a delicate situation, and the merchants who are obliged to surrender their estates to their creditors were not only few but of minor importance.

The Government has been criticised on account of issuing laws in an effort to remedy the anomalous situation created by the management of the Banks of Issue, the assertion having been made that in such critical times a measure so radical should not have been carried out, but if in order to cure one waits until the invalid is altogether healthy there is danger of his dying, whereas by attending to him when he complains of feeling badly it is possible that he can be completely cured.

CONSULAR SERVICE.

A law has been enacted by the Mexican Congress providing that in future all appointments of salaried members of the Mexican Consular Corps shall be restricted to Mexican citizens. This measure is cal-



PRESIDENT PORFIRIO DIAZ, IN HIS CARRIAGE AND ESCORTED BY HIS GUARDS, ON MEXICO'S INDEPENDENCE DAY.

The photograph was taken September 16 last, and shows the President on his way to attend the opening of the National Congress of Mexico. The 16th of September in the Mexican Republic corresponds to the American Fourth of July, as on that date. 1810, the heroic Mexican priest Miguel Hidalgo inaugurated the insurrection against Spain which, eleven years later, resulted in the complete independence of Mexico.

culated to increase the efficiency of the Consular Service. Not only will the salaried consular agents be Mexican citizens, but the law provides that they must stand an examination covering the customs laws, consular accounting, and the elements of international, commercial, and maritime laws. Whenever possible, vacancies in the service will be filled by promotion from the lower ranks. The law divides consular officers into two classes; that is to say, those drawing salaries fixed by the budget and those receiving fees, which in no case shall exceed \$2,400 silver per year.

There are three grades of Consuls-General, the first comprising those of Hamburg and Liverpool, receiving \$11,862.50 silver per year; the second, located at Antwerp, Barcelona, Havana, and San Francisco, \$8,760 silver per year; the third, at Budapest, Buenos Aires, and Yokohama, receive the same salaries as Consuls-General of the second grade, but Consuls-General of the third grade, at Geneva, Lisbon, San Jose (Costa Rica), San Salvador (Republic of Salvador), and Managua (Nicaragua) receive \$4,015 silver per annum.

The Consuls are divided into six classes. The first class, located at El Paso and Laredo, Texas, receive \$7,008 silver per annum; the second class, at Eagle Pass, New Orleans, and Los Angeles in the United States, Bordeaux, Havre, and St. Nazaire in France, London, and Panama, receive \$5,840 silver per annum; the third class, located at Cadiz and Santander in Spain, Chicago, Philadelphia, Galveston, Kansas City, Phoenix, and San Antonio in the United States, \$5,037 silver per annum; the fourth class, \$4,015 silver per annum; the fifth class, \$3,029.50 silver per annum; and the sixth class, \$2,409 silver per annum.

A liberal allowance for traveling expenses is made to married Consuls. The law provides for the appointment of two inspectors of consulates, with the rank of Consul-General, who are to receive \$32.50 silver per day salary and \$20 silver per day for traveling expenses while on visits of inspection. Each consular office should be visited at least once in two years.

AMERICAN AGRICULTURAL COLONIES IN TEPIC.

The Mexican Coast Land Company has recently acquired 300,000 acres of land in the Territory of Tepic, Republic of Mexico, for the establishment of American agricultural colonies. This company, which was incorporated in Kansas City, has constructed in a town called Teruel, near its estate, a commodious hotel and has made some other improvements. Among the important projects the company has planned is the construction of a highway, about 30 miles long, which, starting from Teruel, will run to the estate of the company. The directors of the company have decided to use 5,000 acres of land in

JALISCO

the cultivation of maguey, maize, and other cereals, the consumption of which is considerable in the Republic. It is expected that within a year the line of the Southern Railway will traverse the Territory, thus connecting it with the principal cities of the western coast of Mexico. About 400 colonists will soon arrive in Tepic and establish their new homes on the lands purchased by the company.

EXPORTS OF HENEQUEN, FIRST SIX MONTHS OF 1908.

From January to June, 1908, the exports of henequen from the State of Yucatan, Republic of Mexico, amounted to 320,199 bales, weighing 52,944,831 kilos, valued at \$13,674,863 Mexican silver. The exports by months were as follows:

	Bales.	Weight.	Value (Mexican silver).
January February March April May June	45, 224 59, 277 38, 166 30, 484 63, 186 83, 862	Kilos. 7,516,894 10,039,367 6,257,285 4,980,198 10,390,854 13,760,233	\$1,891,813 2,644,414 1,584,475 1,254,413 2,660,700 3,639,048

YUCATAN'S IMPORTS OF CORN DURING THE FIRST HALF OF 1908.

During the first half of 1908 the State of Yucatan, Mexico, imported 174,507 kilos of Indian corn, valued at \$9,298 Mexican silver. These totals were made up of 173,908 kilos of domestic and 599 kilos of foreign grain, valued at \$9,217 and \$81 Mexican silver, respectively.

IRRIGATION SYNDICATE.

A syndicate has been formed to take \$25,000,000 of the bonds of a company organized in Mexico, with the consent and approval of the Mexican Government, for the purpose of carrying to completion the various irrigation projects now contemplated in that country.

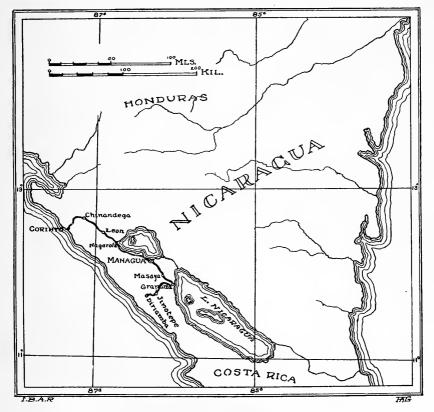


THE NATIONAL RAILWAY.

The Nicaragua Railway is a narrow-gauge line (42 inches), 171½ miles long, including sidings, with a maximum gradient of 28 per thousand. The rails are 40 pounds to the square yard, except on the Southern Division, where they are 30 pounds to the square yard. The invoiced value of the railway is \$3,155,941.17.

The survey of the line was commenced at Corinto in 1878, and the section from Corinto to Momotombo, a distance of 57.7 miles, was opened to traffic in 1884. The line from Managua to Masaya was opened to traffic in 1885, and that from Masaya to Granada in 1886. The section from La Paz to Managua was begun in 1900 and completed in 1903. The Southern Division was commenced in 1895 and terminated in 1899. The branch line to El Viejo was constructed in 1895.

Since 1903 the railway has been leased to the Limited Railway and National Steamship Company, whose General Manager is Julio



Wiest, and notable improvements have been made in the line. The receipts from the railway in 1906 were \$2,251,233.37, and the expenditures, including repairs, etc., were \$2,369,692.08, as compared with receipts of \$1,836,846.05 and expenditures of \$1,911,577.70 in 1905.

The rolling stock consists of 15 large and 3 small locomotives, 3 baggage cars, 46 box cars, 10 first class and 13 second class passenger cars, and 77 platform and other cars. The principal shops are in Managua, but there are repair shops at Ameya.

PRODUCTION OF SUGAR, JULY 1, 1906, TO JUNE 30, 1907.

From July 1, 1906, to June 30, 1907, the production of refined sugar in Nicaragua amounted to 3,505,752 kilos. The by-products consisted of 1,837,179 liters of molasses, 1,712,188 kilos of crude sugar, 490,265 liters of aguardiente, and 200,000 liters of alcohol. The total value of all these products was 2,806,177.70 pesos (\$1,122,400). The total value of the sugar plantations was estimated, in the period referred to, at 4,125,899 pesos (\$1,650,000). These plantations had 931 wooden and 225 iron sugar-cane mills in operation during the period referred to. Animal, steam, and water were the motive powers employed. The foregoing data is complete, with the exception of one sugar plantation, which produces on an average 250 tons of sugar annually

TRAMWAYS.

The only tramway lines in the Republic of Nicaragua are those in Granada, Rivas, and San Juan del Norte.

There are two tramway lines in Granada, one of which uses steam traction, is 2 miles long, and is known by the name of "Santiago Morales." The rolling stock of the line consists of a locomotive and 2 cars for first-class and 1 for second-class passengers. The gauge is 4 feet 8 inches. Trains are run daily at intervals of an hour from 6 a. m. to 10 p. m. The other tramway in Granada is the "Urban" Line, which has a 45-inch gauge and is three-fourths of a mile long. This line uses animal motive power, employing in the service 12 mules, valued at \$1,400. The rolling stock consists of 3 cars, which are run at intervals of five minutes during the busy hours of the day.

The tramway at Rivas formerly used steam traction, but now employs horses. It is 3 miles long, and is known as the "Rivas, Potosi and St. George Railroad Company." The gauge is 57 inches, and the rolling stock consists of 2 first-class cars and 1 locomotive (not now in use), the traction being supplied by 12 horses.

The tramway in San Juan del Norte is also run by animal traction. This line is 2 miles long, is constructed of 20-pound rails, and has a gauge of 4 feet 8 inches. The rolling stock consists of 2 first-class, 1 second-class, and 1 freight car. The service is irregular and the line is at present in bad repair. The original concession was granted to Walter Ingalls for thirty-five years.

DEMOGRAPHIC STATISTICS FOR 1907.

The number of births in Nicaragua in 1907 was 20,339—that is to say, 10,613 males and 9,726 females—and the number of deaths 7,657, or an excess of births over deaths of 12,682. In other words, there were more than twice as many births as there were deaths, a fact which places Nicaragua among the most-favored nations of the globe with respect to her birth and death rates. Taking as a basis the

population of the Republic as 600,000, there were 33.9 births and 15.1 deaths per 1,000 inhabitants in 1907. During the year referred to there were 2,522 weddings, or 4.2 per 1,000 inhabitants.

FOREIGN COMMERCE IN 1906.

The "Boletin de Estadistica" of Managua has just issued a pamphlet showing that in 1906 Nicaragua exported products to the value of \$4,231,047.88 and imported merchandise worth \$3,408,829.65, or an excess of exports over imports of \$822,218.23. The exports and imports amounted to \$7,639,877.53. The following table shows the exports and imports by countries and by custom-houses:

BY COUNTRIES.

	Exports.	Imports.
United States	\$2,492,480.94	\$1,914,961.14
England	452, 141, 71	776, 133. 49
Germany France	458, 718. 28 480, 501, 63	400, 389. 04
Other European countries	71, 758, 28	193, 661, 31 100, 567, 79
Other European countries. Central America.	217. 816. 22	18, 107, 30
Other countries	57, 631. 72	5, 009. 65
Total	4, 231, 047. 88	3, 408, 829. 65

BY CUSTOM-HOUSES.

Corinto San Juan del Sur Castillo Bluff Cape Gracias a' Dios Rivas Nueva Segovia	487.01 1,845,530.96 246,170.63 87,067.00	15, 072, 37
Total	4, 231, 047. 88	

The last two custom-houses are land custom-houses, and the exports through them consisted entirely of cattle.

Of the exports of Nicaragua in 1906, coffee formed the largest item, amounting to 8,808,280 kilos, valued at \$1,375,679. The other principal exports in the year mentioned were, in the order of their importance, as follows: 1,401,595 bunches of bananas, valued at \$700,069; 1,026 kilos of gold bullion, valued at \$527,423; 868 kilos of gold amalgam, valued at \$343,546; 296,103 kilos of rubber, valued at \$385,472; 3,373,963 kilos of mahogany, valued at \$284,320.67; 11,087 head of cattle, valued at \$133,044; 482,413 kilos of hides, valued at \$120,367; cocoanuts, \$90,953; silver coin, \$44,220; sugar, \$23,467, and cedar, \$41,465.

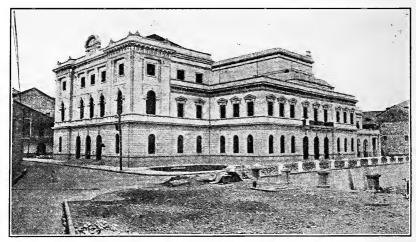
SLAUGHTER OF CATTLE DURING SECOND HALF OF 1907.

The cattle slaughtered for food purposes in the Republic of Nicaragua during the second half of 1907 numbered 29,456, among which were 17,328 cows, 6,794 young beeves, 3,985 bulls, 1,124 oxen, and 225 head of cattle not specially classified.



PERSONNEL OF THE CABINET.

The members of the Cabinet of Señor Don José Domingo de Obaldia, the newly inaugurated President of the Republic of Panama, are as follows: Secretary of Foreign Relations, Señor Don José Augustin Arango; Secretary of Government and Justice, Señor Don Ramón M. Valdes; Secretary of the Treasury, Señor Don Carlos A. Mendoza; Secretary of Public Instruction, Señor Don Eusebio A. Morales; Secretary of Fomento, Señor Don José E. Lefevre.



GOVERNMENT PALACE, CITY OF PANAMA, PANAMA.

This imposing edifice, the most beautiful and important of the Republic, was completed in April of this year. The building is distinguished for the elegance of its façade, the solidity of construction, the spaciousness of its rooms and halls, and the completeness of its furnishings. Native mahogany was used to a large extent in the interior woodwork of the structure. It contains offices for the Departments of the Interior, Justice, Foreign Relations, Treasury, Public Instruction, and Fomento.

NEW MINISTER TO THE UNITED STATES.

The President of Panama has appointed Señor Don Carlos Constantino Arosemena, formerly First Secretary of the Legation of Panama in Washington, Envoy Extraordinary and Minister Plenipotentiary near the Government of the United States.

AGRICULTURE AND STOCK RAISING IN THE PROVINCE OF BOCAS DEL TORO.

The Assistant Secretary of Fomento and Public Works of the Republic of Panama, in an interesting report made to the Congress of the Nation on the occasion of its opening session on September 1, 1908, states that stock raising and agriculture are now the principal

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industries of the Province of Bocas del Toro. This province has a large area of unfenced plains or prairies where immense numbers of stock feed and procreate with the need of but little, if any, supervision of stock growers. The stock-raising industry is being encouraged and developed by the importation of blooded animals, and especially is this true of cattle. By systematically and intelligently crossing imported bulls and cows with the native breeds of the country a great improvement has been noted in the size of the cattle and the increase of the quantity of milk given by the improved breeds of cross-bred cows.

Foreign immigrants have settled at different places in this province, and a Spanish colony established therein has been quite successful in the raising of agricultural products and stock. The land is exceedingly fertile, and when properly cultivated yields enormous crops. At Boquete and other districts in the Province of Bocas del Toro there are some American plantations that are in a very flourishing condition, and the successful operation of which demonstrates in a clear and undeniable manner the possibilities of foreign immigrants profitably engaging in the stock and agricultural industry of this part of the Republic.

THE SMALL BEGONIA.

The forests of the Isthmus of Panama are veritable depositories of dormant natural wealth, standing forth in their beauty and majesty solemnly and silently awaiting the hand of industry and enterprise to awaken and transform with its magic touch their latent resources into articles of beauty and usefulness with which to supply the wants of man. An abundance of construction, cabinet, and precious woods lie buried in the depths of their jungles, concealed by a mass of foliage and surrounded by a luxuriance of tropical growth that makes these areas of profuse and tangled vegetation a real wonderland of verdure and enchantment, interspersed with rare medicinal and aromatic herbs, and on all sides dyewoods and plants noted for the richness of their hues and the delicacy of their variegated tints and coloring—all these lie hidden in the heart of the forests of this newest of Republics, patiently awaiting the woodman's axe and the exploitation and development of the combined forces of labor and capital.

Among the celebrated dyewoods and plants in this tropical, sunny southland, nestling away in dells and dales and depths of gloomy forests, is the small begonia, known to the scientific world since the explorations of Baron von Humboldt, the proper industrial exploitation of which would create a new fountain of almost inexhaustible and untold wealth in the forestal riches of the Republic. This handsome plant with its beautiful one-sided and brilliantly colored leaves, which attain great size, banded together in a pleasing and artistic

enlacement, grows in great profusion in the Province of Cocle, and especially in the low, clayey lands of the Republic, where it becomes at times a twining, creeping shrub, covering fences and entwining trees, and where it has been christened by the aborigines with the euphonic and sonorous name of chisná. This plant, famed for its beauty and industrial worth, belongs to the begonia family, and was classified by Humboldt, Bompland, and Kunth as the small begonia (Begonia chica), and by Seeman as Cundia chica. The fruit is contained in a silique-shaped pod, and the flowers are most beautiful and gorgeous when in full blossom in the teeming growths of the sweltering tropical forest.

An infusion of the leaves of this beautiful but useful plant colors the water red, and cloth dipped into the liquid takes on a coloring of a practicably indelible red, which holds fast even when washed or immersed in a strong solution of concentrated lye. This infusion is used by the native Indians in the dyeing of fabrics and the tinting of hats. The coloring matter may be extracted from the plant by boiling the dry leaves in water, decanting and precipitating by means of alum, or other similar substance, the resultant coloring material held in solution. This process has been successfully followed in the Republic heretofore, in extracting the coloring matter from the plant, and has given satisfaction.

The great abundance of the small begonia, the ease with which it can be gathered, and the coloring matter extracted, places the exploitation of this plant in the list of industries that will sooner or later be profitably established and developed in the Republic.



PERSONNEL OF THE CABINET.

The personnel of the Cabinet of the new Government of Paraguay is as follows: Minister of Finance, Dr. Gualberto Gardús Huerta; Minister of Interior, Dr. Manuel Franco; Minister of Justice, Dr. Emeterio González; Minister of War and Marine, Maj. Alberto Jara; Minister of Foreign Affairs, Dr. Eusebio Ayala.

COTTON.

Paraguay is naturally a great cotton country, and perhaps no country in the world could produce a greater quantity of cotton per acre than could be produced in the rich and fertile soil of that Republic. As early as 1863 there were estimated to be 58,000,000 cotton plants under cultivation in Paraguay.

The plant attains a vigorous growth in the wonderfully productive alluvial lands of the Republic and produces an abundant yield. In some parts of the country, near Curuguaty and Caaguazu, the plant has a tree-like growth. In Asuncion the plant grows to a very large size, and the variety most common in Paraguay lives about ten years. In the early history of the country the Jesuit missionaries clothed themselves with cotton raised and prepared by the aborigines. At a later period considerable cotton was grown and exported to Buenos Aires, Santa Fe, and Corrientes, in the Argentine Republic.

The plant grows spontaneously in Paraguay, and there is a species of native cotton that is greatly prized by the Paraguayans, and which is recognized by English spinners as a superior quality of white cotton having long silky and resistent fibers. This cotton has an excellent reputation in Germany and Holland on account of its fine weaving qualities.

In Louisiana an average yield of 671 kilos per hectare is obtained, but the eastern region of Paraguay produces an average of 1,026 kilograms per hectare. In the Chaco territory the average production for a period of six years was more than 1,200 kilos per hectare.

A noted agriculturist, who has made a special study of this subject with respect to Paraguay, states that there is not now, nor has there ever been, a country capable of producing such a great yield of cotton as could be produced with proper cultivation in Paraguay. Botanists say that cotton flourishes wherever the orange grows, and Paraguay is noted for the excellent quality of its oranges. Alluvial lands are the most suitable for the raising of cotton, and all the Paraguayan Chaco is alluvial.

A great advantage in the raising of cotton in Paraguay is, first, that the plant lives and produces for a period of ten years, and, second, the fiber of Paraguayan cotton is long and fine and especially suitable for the weaving of fabrics. Another advantage is in the immense yield per hectare, the average being, under favorable conditions, more than 1,000 kilos of clean cotton per hectare. In a word, Paraguay produces cotton of the best class, of the largest yield, of the strongest fiber, and at as low a labor cost as that produced in any other country.

Señor Manuel Domínguez, a prominent agriculturist of Asuncion, Paraguay, recommends that the Government encourage immigrants to engage in the raising of cotton, assisting them by giving them suitable lands for that purpose and such financial aid as may be necessary to make the industry a success during the first years in which they are engaged in it, and predicts that, under the beneficent results of such a system, the exports of Paraguayan cotton, within a comparatively short term of years, would amount to the enormous sum of \$100,000,000 annually.



INAUGURATION OF PRESIDENT LEGUÍA AND APPOINTMENT OF CABINET.

On September 24, 1908, Señor Don Augusto B. Leguía, was inaugurated President of the Republic of Peru. At the same time the First Vice-President, Señor Larrabure y Unanue, and the Second Vice-President, Dr. Belisario Sosa, entered upon the discharge of their respective duties.

The new Cabinet is composed of the following members: Minister of Finance and President of the Cabinet, Señor Don Eulogio I. Romero; Minister of Foreign Affairs, Señor Don Melitón F. Porras; Minister of the Interior, Dr. Miguel A. Rojas; Minister of Justice and Instruction, Dr. Manuel Vincente Villarán; Minister of War and Marine, Capt. Juan Manuel Ontaneda; and Minister of Public Works, Señor Don Francisco Alayza y Paz Soldán.

SUGAR INDUSTRY IN 1907-8.

The sugar-cane crop of the Republic of Peru for the season of 1907–8 produced 115,272,000 pounds of sugar and 30,563 gallons of rum. While the area planted in sugar cane in 1907–8 was less than that under cultivation in 1906–7, the output per acre was greater. An unfavorable season for the cultivation of sugar cane in parts of the Republic and the scarcity of laborers in some of the sugar-producing districts were the principal causes of the decrease in the area of sugar cane in cultivation in 1907–8 as compared with that of 1906–7.

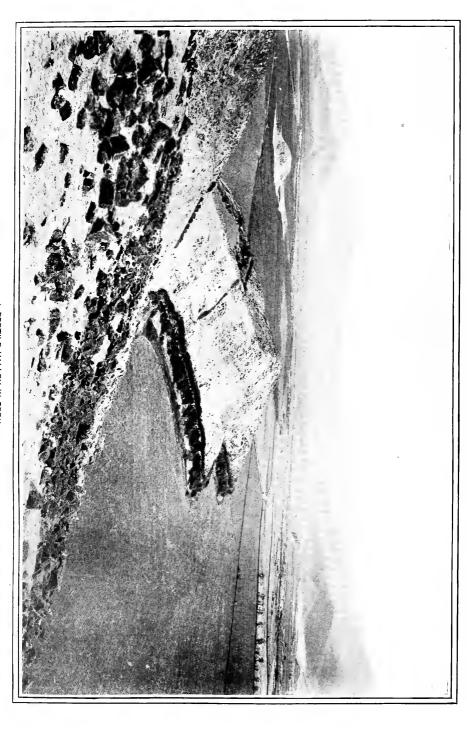
COMMERCE WITH GREAT BRITAIN IN 1907.

In 1907 Peru exported to Great Britain products valued at £2,786,034, as compared with £1,665,396 in 1907. Peru's imports from Great Britain in 1907 consisted of merchandise valued at £2,163,927, as compared with £1,454,368 in 1906. A considerable increase is noted in the exports of Peruvian cotton, rubber, copper, and guano.



NEW TRAMWAY LINE IN THE CAPITAL.

A new tramway line has been opened to traffic in the capital of the Republic of Salvador. The tracks of this tramway parallel those of the Concepcion and Western Tramway in the city of San



A FERTILE VALLEY IN PERU.

The gentle and uniform slope of the coastal lands from the foot of the Andes to the sea makes irrigation comparatively easy, it being necessary only to turn the course of the mountain streams into the desired channels. This natural aid to agriculture on the one hand and the intelligent and persistent dissemination of scientific agricultural knowledge by the Peruvian Government on the other, are showing wonderful results in the transformation of the vast uncultivated areas of the country.



WAITING FOR THE RACES TO BEGIN.



ON THE HOME STRETCH.

THE HIPPODROME, LIMA, PERU.

Racing is a popular diversion among all classes in Peru. The most important meeting of the year is held on Independence Day, July 28. The attendance is large and much enthusiasm is displayed. The course occupies a portion of the lands belonging to the Agricultural School, just outside the city.

Salvador for a considerable distance. Cars run over this line at intervals of ten minutes during the busy part of the day.

CENTRAL AMERICAN MAGAZINE.

The publication entitled "Revista Centroamericana," with headquarters at San Salvador, Republic of Salvador, has changed its edition to the form of a magazine, and in future will be issued weekly on Sundays. This magazine will give special consideration to scientific and literary subjects and will discuss in the highest form and on the loftiest plane the important political and sociological questions of the country.



TRADE WITH LATIN AMERICA FIRST EIGHT MONTHS OF 1908.

In the trade reports issued by the Bureau of Statistics of the Department of Commerce and Labor of the United States covering intertrade relations during the eight months ending August, 1908, the total value of the commerce between the United States and the Latin-American countries is placed at \$312,909,271, of which \$185,543,660 were for imports and \$127,365,611 for exports, the balance of trade against the United States amounting therefore to \$58,178,051. Comparing these figures with those of the same months of 1907, during which the total of imports and exports reached the sum of \$403,333,854 (imports \$245,124,874 and exports \$160,208,980), it will be seen that Pan-American trade has suffered a decrease, the consequence of the depressed financial conditions prevailing throughout the world during the latter part of 1907 and the beginning of the current year.

An examination of the table given below shows a decrease in both imports and exports from and to all Latin-American countries, excepting the Dominican Republic, the imports therefrom having advanced from \$3,013,883 in the first eight months of 1907 to \$4,891,635 in the same period of 1908, while the exports to said Republic increased from \$1,746,624 to \$1,778,744. From Chile the United States bought \$4,559,813 more than in 1907, although the exports from the latter to the former suffered a decrease of \$3,781,452. The exports from the United States to the Argentine Republic increased from \$19,913,009 to \$21,621,904.

By countries, imports and exports are reported as follows for the two periods under comparison:

Countries.	Imports for month	Imports for first eight months of—		Exports for first eight months of—	
	1907.	1908.	1907.	1908.	
Central American States:					
Costa Rica	\$4,390,546	\$3, 238, 111	\$1,708,511	\$1,513,948	
Guatemala	3,987,308	1,626,214	1,736,318	1, 157, 815	
Honduras	1,508,068	1,279,540	1, 225, 979	1,040,875	
Nicaragua	778, 442	689, 158	1, 181, 909	870, 088	
Panama.		903, 769	13,033,044	11,634,323	
Salvador	1,118,417	960, 218	1, 152, 637	939, 183	
Mexico	41, 980, 348	27, 434, 529	46, 858, 305	30, 609, 525	
West Indies:	00 500 000	CC 570 019	95 000 170	07.074.000	
Cuba	80, 500, 208 967, 119	66, 572, 013 310, 949	35, 098, 179	27, 354, 288	
Santo Domingo	3,013,883	4,891,635	1, 795, 641 1, 746, 624	2, 010, 541 1, 778, 744	
Santo Domingo	5,015,005	4,091,000	1,740,024	1, 110, 144	
SOUTH AMERICA.					
Argentina	12, 799, 562	7,627,537	19, 913, 009	21,621,904	
Bolivia		384	1,095,671	533, 452	
Brazil	59, 430, 333	46, 480, 684	14, 021, 291	11,047,575	
Chile	3, 564, 834	8, 124, 647	7, 402, 712	3,621,260	
Colombia	14, 383, 225	4, 400, 289	2,025,621	2, 323, 447	
Ecuador		1, 266, 183	1, 209, 479	1, 161, 939	
Paraguay		15,141	119,388	45, 174	
Peru		3, 802, 325	4,506,324	4,349,217	
Uruguay		1,213,312	2,566,282	2,240,561	
Venezuela	5,498,685	4,707,022	1,811,550	1,511,752	

The chief articles of import purchased by the United States during the first eight months of 1907 and 1908, respectively, were as follows: Sugar, \$66,262,866 and \$52,816,557; coffee, \$48,358,237 and \$42,660,773; india rubber, \$25,231,931 and \$16,132,408; tobacco, \$9,819,336 and \$11,248,871 (all from Cuba); hides and skins, \$12,614,763 and \$8,620,708; copper, \$18,560,037 and \$7,473,583; henequen, \$9,557,070 and \$8,028,417 (all from Mexico); bananas, \$5,115,165 and \$5,081,068; and cacao, \$3,666,360 and \$3,139,917. The balance is made up by several other products, such as iron ore, wool, etc., the import values of which vary from \$1,000 to \$2,000,000 or more.

The principal articles exported from the United States to the Latin-American Republics during the periods under comparison were, respectively: Iron and steel, and their manufactures, such as rails, machinery, sewing machines, typewriters, etc., \$19,863,162 and \$16,071,488; wood and its manufactures, \$14,203,827 and \$10,652,899; wheat flour, \$8,543,372 and \$9,104,330; mineral and vegetable oils, \$7,752,204 and \$9,066,189; meat and dairy products, \$8,575,585 and \$6,919,256; agricultural implements, \$3,141,470 and \$3,996,539; cotton manufactures, \$5,935,423 and \$9,104,330; instruments and apparatus for scientific purposes, \$3,188,528 and \$2,176,838, and other products.



INDUSTRIAL SCHOOLS.

A recent article of the Review of the Industrial Union of Montevideo, Republic of Uruguay, advocates at length and in an able and convincing manner the necessity for the establishment of a practical system of industrial schools throughout the Republic. Government aid is recommended in the founding and conducting of these schools, and the good results obtained in the Argentine Republic and Chile from similar educational institutions in operation in those countries are cited in support of the practicability of adopting a similar system of practical education under Government control in Uruguay. In



PICTURESQUE BRIDGE IN THE PASEO DEL PRADO, MONTEVIDEO, URUGUAY.

The Pasco del Prado is the largest and most beautiful of the six principal public parks of the capital of Uruguay. Its drives, lakes, grottoes, wide avenues, and luxuriant trees make it a favorite resort of the inhabitants of the metropolis. The city of Montevideo stands upon a granite bed 33 feet above sea level, facing a magnificent bay, and in a topographical position that lends itself to the natural development of one of the finest systems of parking in the Western Hemisphere.

conjunction with the establishment and operation of manual training schools in the Republic, circulating libraries composed of useful and practical books relating to the arts, trades, and sciences, which could freely and easily circulate among artisans, workers, and apprentices of all kinds, giving them in this manner an opportunity of obtaining the necessary theoretical instruction needed in the plying of their vocations are much to be desired. The enterprising editor of the "Revista de la Unión Industrial Uruguaya" proposes to publish a series of articles in that popular review concerning this important feature of industrial education.

CENSUS OF THE REPUBLIC.

On October 12, 1908, a census of the Republic was taken by the Government of Uruguay. The aforesaid date, which is the anniversary of the discovery of America, was declared a general holiday for the occasion, and it is thought will be made an annual holiday in the Republic. It is estimated that from 40,000 to 45,000 persons were engaged in the work of the taking of the census, or approximately 1 out of every 25 of the population.

THE ANNUAL RURAL EXPOSITION OF 1908.

The Annual Rural Exposition of Montevideo for 1908, organized by the Rural Association of Uruguay, with the cooperation of the Government of the Republic, was formally opened on the 6th of September of the present year. During the last few years this organization has become of great importance on account of the number and the quality of the live stock exhibited in its expositions. The number of animals on exhibition in the one referred to amounted to 837.



LEASE OF LANDS IN THE STATE OF ZULIA.

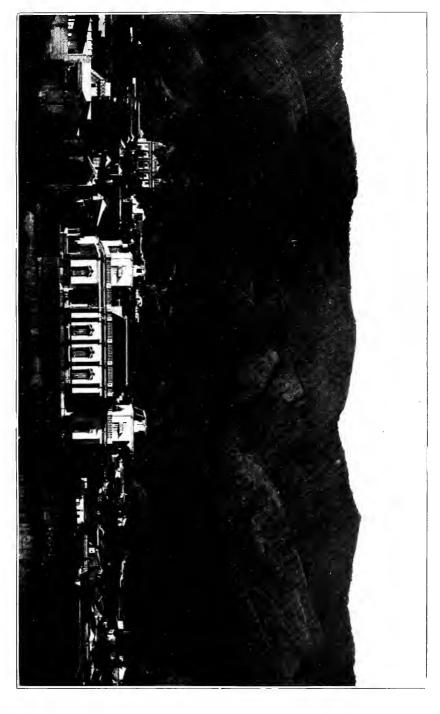
The Department of Public Works has leased a considerable area of public lands in the municipality of Sinamaica, District of Paez, to Federico Boscan, to be used in the raising of stock. A similar lease has been made to Harris Rincon of a square league of land situated within the jurisdiction of the municipality of Carmelo, District of Urdaneta, to be used also in the raising of stock.

REDUCTION OF IMPORT DUTY ON WHEAT.

A decree of the President of the Republic of Venezuela, dated August 1, 1908, provides for a reduction of the import duty on wheat introduced into the Republic from 12 to $10\frac{1}{2}$ cents of a *bolivar* per kilogram.

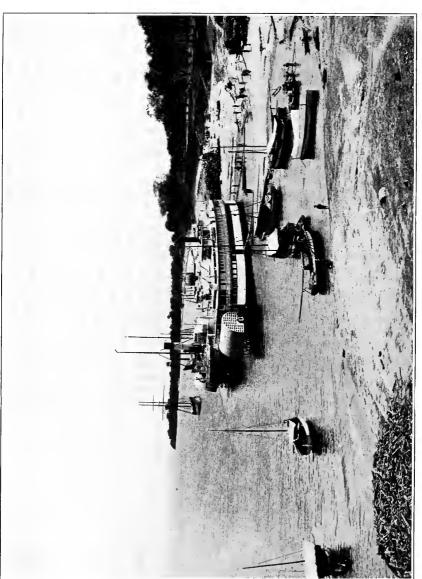
EDITION OF ILLUSTRATED POSTAL CARDS.

The Government of Venezuela, on September 14, 1908, granted permission to Λ. Belloso & Bro., of Maracaibo, Venezuela, to issue an edition of 7,000 illustrated postal cards containing views of the Republic.



MIRAFLORES, CARACAS, VENEZUELA.

The handsome villa of Miraflores in the foreground was the former residence of President Crespo, and for a number of years the home of President Castro, Recently the latter moved to a new villa at Paraíso, a beautiful and growing suburb of the capital of Venezuela. The towering mountain range in the distant background is the Cerro del Avila, which rises to an altitude of more than 4,000 feet above the level of the sea.



HARBOR OF THE CITY OF BOLIVAR, VENEZUELA.

The progressive and well-built city of Bolivar is situated on the Orinoco River 225 miles from its mouth. It is the commercial center of the great Orinoco basin, and exports large quantities of hides, coffee, tobacco, copaiba balsam, rubber, cacao, and gold. The river at this point narrows to less than half a mile in width, and is deep enough to accommodate the largest ocean-going vessels. The commerce of Ciudad Bolivar in 1907 amounted to \$1,480,000.

INTERNATIONAL UNION OF AMERICAN REPUBLICS

BULLETIN

OF THE INTERNATIONAL BUREAU OF THE

AMERICAN REPUBLICS

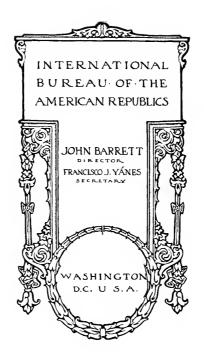
DECEMBER

1908



ENGLISH SECTION

NO. 2 JACKSON PLACE, WASHINGTON, D. C., U. S. A. CABLE ADDRESS for BUREAU and BULLETIN, "IBAR," WASHINGTON



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English Section \$2 per year in all countries of the Union; in other countries, \$2.50 per year. Single number, 25 cents.

Spanish-Portuguese-French Section, \$2 per year in all countries of the Union; in other countries, \$2.50 per year. Single number, 25 cents.

Double number (Bulletin in English, Spanish, Portuguese, and French), \$3 per year in all countries of the Union; in other countries, \$4. Single number, 40 cents.

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ELIHU ROOT, Secretary of State of the United States, Chairman ex officio.

TOTAL CONTRACTOR

Commonana

YVVVVVVVVVVVV

AMBASSADORS EXTRAORDINARY AND PLENIPOTENTIARY.Mr. Joaquim Nabuco, Office of Embassy, 1758 K street, Washington, D. C. ENVOYS EXTRAORDINARY AND MINISTERS PLENIPOTENTIARY. Argentine Republic ... Señor Don Epifanio Portela, 1800 Massachusetts avenue, Washington, D. C.Señor Don Ignacio Calderón, Office of Legation, 1633 Sixteenth street, Washington, D. C. Colombia..Señor Don Enrique Cortés. Office of Legation, 1728 N street, Washington, D. C.Señor Don Joaquín Bernardo Calvo, Costa Rica... Office of Legation, 1329 Eighteenth street, Washington, D. C.Señor Don Gonzalo de Quesada, Office of Legation, "The Wyoming," Washington, D. C ... Señor Dr. Don Luis Toledo Herrarte. Office of Legation, "The Highlands," Washington, D. C.Mr. J. N. LÉGER, Office of Legation, 1429 Rhode Island avenue, Washington, D. C. Honduras Señor Dr. Don Lois Lazo America office of Legation, 66 Beaver street, New York City.Señor Dr. Don Luis Lazo Arriaga. Nicaragua Señor Don Luis F. Ouren,
Office of Legation, 2003 O street, Washington, D. C. PeruSeñor Don Felipe Pardo.aSeñor Dr. Don Luís Melián Lafinur, Office of Legation, 1529 Rhode Island avenue, Washington, D. C. MINISTER RESIDENT.

Dominican Republic ... Señor Don Emilio C. Joubert

Office of Legation, "The Benedick," Washington, D. C. CHARGÉS D'AFFAIRES, AD INTERIM.

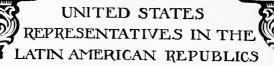
Office of Legation, 1737 H street, Washington, D. C. [Paraguay and Venezuela have at present no representatives on the Governing Board.]

......Señor Don José F. Godov, Office of Embassy, 1415 I street, Washington, D. C.

-----Señor Don Manuel de Freyre y Santander,

a Absent.

Mexico



AMBASSADORS EXTRAORDINARY AND PLENIPOTENTIARY.

ENVOYS EXTRAORDINARY AND MINISTERS PLENIPOTENTIARY.

ColombiaThomas C. Dawson, Bogotá.

Ecuador......WILLIAMS C. Fox, Quito.

Nicaragua

Paraguay....(See Uruguay.)

Peru....Leslie Combs, Lima.

MINISTER RESIDENT AND CONSUL-GENERAL.

Dominican Republic Fenton R. McCreery, Santo Domingo.

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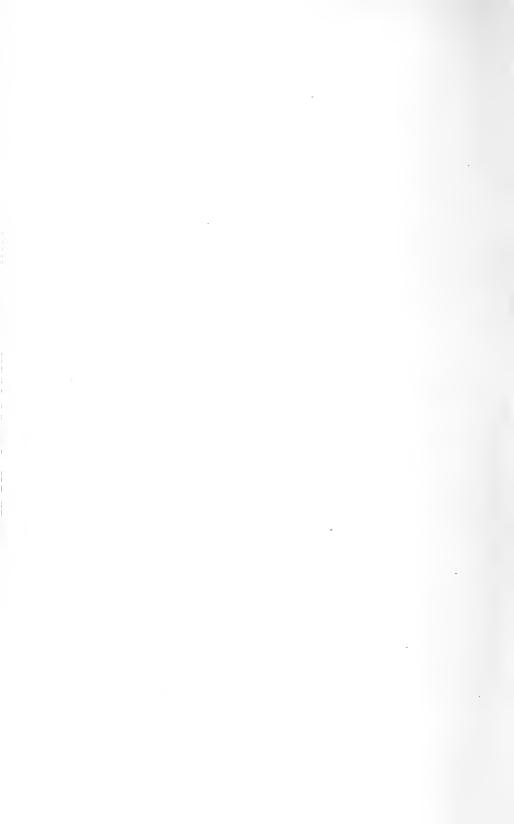
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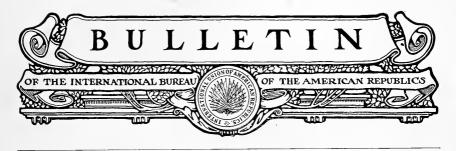
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VOL. XXVII.

DECEMBER, 1908.

No. 6.

N this issue is a summary of the Annual Report of the Director, submitted on November 11 to the chairman and members of the governing board. Copies of the complete report will be sent to all who may request it. The Director has changed the custom of submitting only a brief statement of the affairs of the Bureau and has made a more extended review of conditions in order to put into pamphlet form a large amount of valuable information in regard to the Bureau's work. Naturally a report should contain this kind of information, inasmuch as it describes the growth and development of the institution. The results now being accomplished by the Bureau are so many and so far-reaching that its influence and value are being recognized in all parts of the world, and it is constantly in receipt of requests for some statement that shows specifically what it is doing for the development of pan-American commerce and comity. If anyone is in doubt as to the practical usefulness of the International Bureau, or as to the actual value of the work it is attempting to do, he should read carefully the full report of the Director. In this annual statement he first explains the principal causes which account for the remarkable expansion and growth of the institution, placing first among these the visit of the Secretary of State of the United States to South America and to Mexico, and Mr. Roor's personal and official concern for the development of closer relations between the United States and her sister nations.

There is a careful review of Latin-American trade, including the latest general and specific totals of Latin America as a whole and of the individual countries. The chief influences that should be employed to build up more trade between the United States and these countries are pointed out, with special emphasis on the necessity of providing first-class mail, express, and passenger steamers. The increase of travel to Latin America

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and the remarkable growth of the correspondence of the Bureau are given as evidence of new interest in that part of the world. The improvements of the Bulletin and the plans for its future betterment are outlined. together with a discussion of the program of the Bureau in regard to handbooks and publications for free distribution. Attention is called to resolutions indorsing the Bureau passed by prominent commercial organizations, and to the addresses which the Director has been delivering before chambers of commerce, boards of trade, and universities. The progress on the new building is stated as indicating that it will be ready for occupancy in the fall of 1909. There is a detailed discussion of the receipts and expenditures of the Bureau, and space is also given to a consideration of the Central American Peace Conference, the Pan-American Scientific Congress in Santiago, the new Pan-American Committees, exhibitions in South and North America, and the history of the Bureau. The report also includes the annual statement of the Acting Librarian of the Columbus Memorial Library. In conclusion the Director points out the able assistance and cooperation he has received throughout the year from the Secretary of the Bureau, Mr. Francisco J. Yánes, and the other members of the staff.

CUBA'S NEW ADMINISTRATION.

On November 14, 1908, Gen. José Miguel Gomez and Dr. Alfredo ZAYAS were chosen by the people of Cuba for the offices of President and Vice-President, respectively, of the Cuban Republic. The Presidentelect is a native of the Province of Santa Clara and in the discharge of various public duties, both at home and abroad, has won a high reputation for ability and progressiveness. He attained his military rank in the wars for Cuban independence and served as a Commissioner in conference with the United States Government in disbanding the revolutionary army after the war of 1905. Subsequently he was elected Governor of Santa Clara Province and afterwards a member of the Constitutional Convention, which drafted the Constitution of the Republic. In a statement of his political principles General Gomez has announced that he will seek beneficial reforms and improvements, such as the establishment of agricultural banks, radical labor legislation, and the maintenance of proper highways.

PAN-AMERICA AS VIEWED BY SENATOR M'CREARY.

One of the most interesting addresses recently delivered before the Greensboro (North Carolina) Centennial and Peace Congress was by Hon. JAMES B. McCreary, United States Senator from Kentucky, and member of the Pan-American Committee of the United States. Below is given a brief and interesting quotation from this address:

The union of the American Republics made possible the International Bureau of the American Republics, and the possibilities of this union are increasing and broadening every year. Already the Republics of the three Americas are bound together in kindly bonds of friendship, good will, mutual justice, and common desire for independence and popular government. The interests of these people are more closely intertwined than they can be with the people of the other hemisphere, and more than three-quarters of a century ago the United States of America showed respect for the sovereignty and independence of the Republics of the Western Hemisphere by the announcement of the Monroe doctrine. The future will mark stronger ties, more intimate association, quicker communication, and stronger commercial relations, aided by a transcontinental railway, which will connect all the American Republics, and a great interoceanic waterway conceived by American intellect, constructed by American skill, paid for with American money, which will connect in perpetual embrace the waters of the Atlantic and Pacific oceans, change many important sea routes, and greatly benefit the American Republics and bring nearer together the nations on two of the great sea fronts of the world.

The progress, improvement, and advancement of the American Republics in the last century were great, and our Republic became a world power on land and sea.

In the present century, from all indications, no other part of the world will show greater development and advancement and broader progress in political stability or better promotion of the interests of the people than will be seen in North, Central, and South America.

CUBAN TOBACCO.

The following letter from His Excellency Señor QUESADA, Minister of of Cuba in the United States, is self-explanatory:

[Translation.]

No. 447.]

LEGATION OF CUBA, Washington, D. C., November 25, 1908.

MR. DIRECTOR: The BULLETIN of the International Bureau of the American Republics for the month of July ultimo contains on page 124 of the English edition, and 122 of the Spanish section, the following paragraph in the Cuban portion of the Annual Review:

"The demand for Havana tobacco in Europe and the United States is so great that the Cuban manufacturers import large quantities of tobacco from other countries, which they manufacture and then sell under the name of Havana tobacco. In order to prevent this fraud and to preserve the reputation of the latter, the Government has levied an import duty of \$7.50 per kilogram on foreign tobacco."

These data, as well as the following, in French:

"Pendant l'année dernière, le Mexique a exporte à Cuba 4,298 kilos de tabac valant environ \$9,000 or et qui a été très probablement transformé en cigares et cigarettes de la Havane," which were taken from La Revue Diplomatique of Paris for May 17, 1908, from an article on Mexican tobacco abroad, are entirely inaccurate.

Cuba during the same year, according to official data published in the Bulletin, produced 440,000 bales, or over 22,000,000 kilos, and did not need at all 84 bales (4,298 kilos) to complete or increase her manufactured product to meet the demand of Europe and the United States, especially when the shipments of Cuban leaf tobacco even to Mexico amount to thousands of kilos per annum. Mexico in turn exported during

that same year 1,623,000 kilos of tobacco, out of which the 4,298 kilos in question represent but an insignificant portion.

The statement in regard to the duty of \$7.50 gold per kilo is not correct, as in reality this duty amounts to \$5 gold per pound, or over \$10 gold per kilo, a price that but very few bales of the choicest tobacco may command in Cuba. This is a prohibitive duty created a long time ago.

On the other hand, there is no reason why manufacturers should import a foreign leaf of an inferior quality, paying for it in duties alone over \$5 gold a pound, when all foreign tobacco absolutely lacks the necessary quality for blending with the product of Cuba, where there is an abundant supply of leaf suitable for manufacturing tobacco at a price from 20 to 30 cents per pound. The importation into Cuba of the bales under consideration, or of any other tobacco, is but a reimportation of Cuban tobacco which is returned to the country under section 341 of the customs tariff.

The deductions made in said "Revue" as to exports to Cuba of Mexican tobacco, published inadvertently, I am sure, in the Bulletin, not only lack foundation, but also work injury to one of the most important and far-famed industries of the world. The propaganda of such data and affirmations as that contained in "La Revue Diplomatique," made in a publication of the standing of the Bulletin, would also injure its reputation, so justly enhanced since you became Director, were it not followed in the first opportunity by the proper rectification.

Convinced as I am that you, as well as those who second you in your work, deplore as much as I do this unfortunate incident, which if not corrected in due time might impair the universal and well-deserved name of the tobacco of Cuba, one of the Republics of the International Union of American Republics, I feel sure that you will give this statement the prominent place it deserves in the BULLETIN, and this will be a new proof of that courtesy and good will you have always shown in all that relates to any country.

I beg to renew the assurance of my distinguished consideration.

GONZALO DE QUESADA.

Hon. JOHN BARRETT,

Director of the International Bureau of the American Republics,

Washington, D. C.

The Monthly Bulletin regrets the unfortunate occurrence to which Minister Quesada's letter refers. The item in question was published in good faith, as it can not be said that it has been the intention of this publication to circulate nor can it be conceivable that it would knowingly print anything which might be considered as an offense to the great tobacco interests of the Island of Cuba.

The greatest care is exercised in the selection of all matter to be published in the Bulletin, which is collected from official publications, and when these are not available from other sources supposed to be trustworthy. It may happen, however, that a statement supposedly correct may be misleading and give rise in the mind of its readers to a construction entirely foreign to the spirit in which the publication was made.

The Bulletin avails itself of this opportunity to thank His Excellency the Minister of Cuba for having called attention to the matter in question, as well as for the continued support he has always given the International Bureau both as a member of the Second and Third Pan-American Conferences and as a member of the Governing Board.



MEDAL TO BE PRESENTED TO PANAMA CANAL EMPLOYEES.

Every American employee of the Canal Commission serving two years or more on the Isthmus in recognition of such service will receive a bronze medal, made from the old French machinery, after the design of V. D. Brenner.



STUDY OF SPANISH IN AMERICAN UNIVERSITIES.

It is gratifying to note the interest throughout the universities and colleges of the United States in the study of the Spanish language. The classes taking up this study are 50 per cent larger than they were two or three years ago, and it will not be surprising if the number of students pursuing the course of Spanish will presently exceed those giving their attention to French and German. In this connection a brief paper published in this issue under the title "The Spanish Language in the Modern Curriculum," prepared by Miss Caroline Ober, Professor of Spanish, University of Washington, Seattle, Washington, will prove of interest.

A YOUNG NORTH AMERICAN'S WORK.

It is always a pleasure for the Bulletin to call attention to the activities of North Americans who seem to be appreciated in South America. Among these is Mr. Percival Farquhar, a native of York, Pennsylvania. Elsewhere a brief review is given of what he is accomplishing in developing various enterprises and industries in South America.

THE DIRECTOR AND COMMERCIAL ORGANIZATIONS.

On November 17, the Director was a guest of the Chamber of Commerce of Erie, Pennsylvania, United States of America, at its annual banquet. He delivered an address on the commercial conditions of Latin America, and was shown the especial honor of being elected an honorary member of this organization in recognition of his efforts to promote trade between the United States and the Latin American nations. Other engagements to discuss Latin America which the Director recently filled included banquets of commercial organizations in Yonkers, New York; York, Pennsylvania; Grand Rapids, Michigan; Louisville, Kentucky, and St. Louis, Missouri.

MOTORING ALONG THE ROADS OF CUBA.

The interest throughout the United States in Cuba is growing so rapidly and the Republic is making such improvements in its roads that the number of people who wish to visit that country in automobiles is rapidly increasing. For that reason there will be particular interest in an article published in this BULLETIN entitled "The Touring Car in Cuba," prepared by IRENE A. WRIGHT, Special Agent of the Department of Agriculture.

THE CAREER OF WILLIAM H. ASPINWALL.

The Bulletin continues in this issue its series of articles upon North American captains of industry in Latin America with a careful review of the life and work of that distinguished New York merchant, William H. Aspinwall. This has been prepared for the Bulletin by Dr. Frederic Noa, who has made a special study of the record of Mr. Aspinwall in Latin America.

UNITED STATES MINISTER TO URUGUAY AND PARAGUAY.

The Hon. EDWARD C. O'BRIEN, Envoy Extraordinary and Minister Plenipotentiary to Uruguay and Paraguay since March 8, 1905, was born at Fort Edward, New York, received his education in the public schools and Granville Military Academy, and, later, had the degree of LL.D. conferred upon him by Georgetown University, Georgetown, District of Columbia. He engaged for several years in the flour business and then became interested in shipping. He was United States Commissioner of Navigation from 1889 to 1903, and Commissary-General of Subsistence, with the rank of brigadier-general, on the staff of Governor Levi P. Morron in 1894. He resigned this position to become Commissioner of Docks in New York City, and was twice elected President of the Dock Commission. He was instrumental in effecting the definite organization of the International Exposition Company, and also that of the Pan-American Exposition Company. He acted as Chairman of the International Deep Waterways Convention in Cleveland, Ohio, in 1896. He is a member of the New York Chamber of Commerce, and belongs to a number of clubs.

BRAZILIAN FLAG AND COAT OF ARMS.

An interesting article in this BULLETIN is one on the flag and coat of arms of Brazil. This is the third of a series covering all the Latin-American nations, which the BULLETIN is preparing. It contains data of much interest and instruction, and should be read by all those who take an interest in the sentimental development of the flags and arms of nations.

LATIN-AMERICAN ARTICLES IN "THE INDEPENDENT."

"The Independent," one of the leading magazines of the United States, is about to publish a series of articles entitled "Opportunities in Latin America," prepared by the Director. There is such a demand for information along these lines that it is hoped these articles may answer a great many questions that are being constantly asked in regard to the material, industrial, and economic conditions and opportunities of the Latin-American countries.



HONORABLE EDWARD C. O'BRIEN,
Envoy Extraordinary and Minister Plenipotentiary from the United States to Uruguay and
Paraguay.

Photograph by Gessford.

THE UNIVERSITY OF CHICAGO AND THE FIRST PAN-AMERICAN SCIENTIFIC CONGRESS.

The University of Chicago, recognizing the importance attached to the First Pan-American Scientific Congress, to be held in Chile during December, 1908, has selected for its commission to the Congress two of the most distinguished members of its faculty, Dr. J. Laurence Laughlin, Ph. D., Professor and Director of the Department of Political Economy, and Dr. Albert A. Michelson, Ph. D., Sc. D., Ll. D., F. R. S., and Professor and Director of the Department of Physics. The long services of these two gentlemen in the cause of science and the abundant honors bestowed upon them by the most prominent educational and scientific institutions of the world abundantly attest the high character of the personnel of the university's delegates.

APPRECIATION OF BUREAU PUBLICATIONS.

The growing appreciation of the work of the International Bureau of the American Republics is in no way more forcibly exemplified than by the constant reproduction, both in the United States and elsewhere, of the Bulletin articles. Standard works of reference cite the Bureau handbooks and BULLETINS among their bibliographical authorities and official note is made of much of the subject-matter by foreign governments. Each year the German Government issues a verbatim translation of the Latin-American Review published in the July number, and extensive excerpts from the same are made in the "South American Journal" and in the newspapers and magazines of the various countries covered. Among the many periodicals of Latin America making favorable comment and quotation from the Bulletin issues during the past month are: "La Prensa" (Argentine); "El Economista Mexicano" and "Semana Mercantil" (Mexican); "Boletín del Ministerio de Relaciones Exteriores" (Colombian); "La Prensa Libre" and "El Foro" (Costa Rican); and "El Grito del Pueblo" (Ecuadoran).

ARGENTINE INDUSTRIES.

In its report on cereal production for 1908 the Argentine Government places the wheat crop at more than five and a quarter million tons, of which 4,000,000 tons are available for export, while the supplies of linseed and oats destined to the world's markets are given as 1,000,000 and nearly 500,000 tons, respectively. The rank occupied by the Republic as a purveyor of frozen meats is preeminently first, though with the enormous stock of raw material at hand it is evident that this industry is as yet in its infancy. A valuable report in regard to this branch

of economic wealth was presented by the Argentine Bureau of Agriculture at the First International Congress of Refrigerating Industries, held in Paris from October 5 to 10, 1908, in which a complete history of the inception and development of the freezing establishments in the Republic is given. The demand for glucose has led to the recent installation in the capital of a factory for its preparation, and the duty levied on imports of this character will enable the domestic product to compete advantageously with that introduced from abroad. The transport of native products to the seaboard for shipment is a matter of accepted moment to the nation, and it is purposed to include in the Centennial Exposition of 1910 a section devoted to the display of railway exhibits and facilities.

ECONOMIC STATUS OF BOLIVIA.

Bolivian trade values, in the general yearly average from 1904 to 1907, show a constant advance; the returns indicating an annual aggregate of about \$35,000,000, whereas at the close of the nineteenth century this average was but half as great. With the satisfactory arrangements made with Peru and Chile for a maritime outlet for Bolivian products these values will undoubtedly increase, while the opening up of railroad communication will be a contributing factor in this result. In 1907 581 miles of railroad were built and the lines under construction aggregate 1,366 miles.

BRAZILIAN TREATIES AND INDUSTRIAL OUTLOOK.

With the ratification by the Brazilian Government of the general arbitration treaty with the Argentine Republic and the settlement of the boundary question with Dutch Guiana, two important matters of political significance have been dealt with satisfactorily by Brazil, while the launching of the São Paulo coffee loan, the final arrangements for which are reported as under adjustment, will confirm the high rank occupied by native coffee in the world's markets. For the crop year ending June 30, 1908, shipments of this commodity from the ports of Brazil aggregated nearly 13,000,000 bags, a little more than the average maintained in the preceding eight years, and the present indications for the current season are that a very large crop will be harvested. The granting of rebates on coffee shipments by certain steamship lines in the European carrying trade will undoubtedly influence the ultimate destination of the crop. During the past season 57 per cent of the total was sent to Europe and the bulk of the remainder to American ports, New York ranking first. Rubber values are still suffering somewhat from the financial depression of last year, the first three months of 1907 and 1908 showing a difference in the valuation of shipments amounting to \$9,500,000.

UNITED STATES MINISTER TO SALVADOR.

The Hon. H. Percival Dodge, Envoy Extraordinary and Minister Plenipotentiary of the United States to Salvador since July 1, 1907, was born in Boston on the 10th of January, 1870. Harvard University conferred upon him the degree, magnum cum laude, of A. B. in 1892, and three years later he obtained that of LL. B., Harvard Law School. He was admitted to the bar in 1895. From 1897 to 1898 he studied in France, Germany, and Italy. He held the position of Third Secretary of the American Embassy at Berlin from 1899 to 1900; was promoted to Second Secretary in 1900, and was appointed Secretary in 1902. After four years' diplomatic service in this capacity he was transferred to Tokyo, Japan, as Secretary of the American Embassy, remaining there until 1907. On the 1st day of July, 1908, he was appointed Envoy Extraordinary and Minister Plenipotentiary to the Republic of Salvador.

CHILEAN REVENUES.

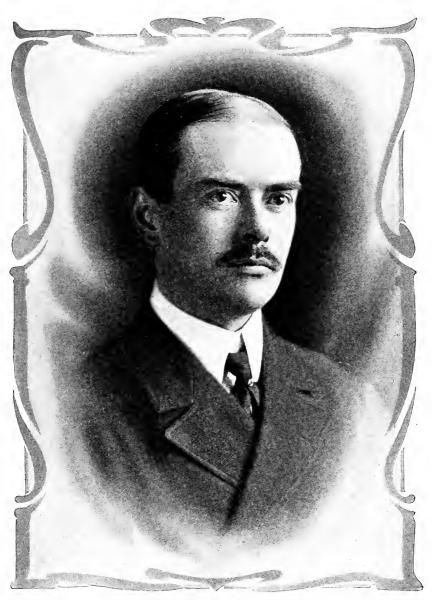
In estimating fiscal receipts for the use of the Chilean Government during the present year an excess of nearly \$2,500,000 is reported over expenditures, the largest source of revenue being the export duty levied on nitrate, which figures for \$22,000,000 in a total of \$75,739,000. Shipments of nitrate for the first six months of 1908–9 increased by 200,000 tons over the corresponding period of the preceding year, while a production increase of 100,000 tons is noted. Certain modifications in the taxes collected on the exploitation of mining properties have recently been enacted.

FOREIGNERS IN COLOMBIA.

No more adequate tribute to the progressive spirit animating the President of Colombia has been paid than on the occasion of the inspection by the Executive of the two steamers of the Royal Mail Steam Packet Company, one of which had landed 237 laborers for work on the Great Northern Central Railway. Mr. Russell spoke on behalf of the foreign residents in the Republic, saying:

I take the liberty of rising on behalf of the British and foreign residents in Colombia to express to Your Excellency our sincere appreciation and gratitude to Colombia for the consideration and facilities afforded to all foreigners and foreign enterprises established in Colombia during the time you have occupied the position as President of the Republic.

Not only are capitalized enterprises fomented by Government concessions, but professional men are afforded every opportunity for the exercise of their avocations.



 $\label{eq:honorable H. Percival DODGE,} Envoy Extraordinary and Minister Plenipotentiary from the United States to Salvador. \\$ Photograph by Harris & Ewing.

COSTA RICAN ANTIQUITIES.

The Minister from Costa Rica at Washington, Señor Don Joaquin Bernardo Calvo, has forwarded to the International Bureau of the American Republics an interesting statement, published in a local paper, concerning the remarkably interesting relics of Indian life to be encountered in the Republic. The field for explorations by antiquarians afforded by the countries of Latin America offers many interesting possibilities and the similarity of burial customs to those of supposedly older civilizations assuredly indicates a common origin.

IRRIGATION IN THE DOMINICAN REPUBLIC.

The steady onward movement of the Dominican Republic is evidenced in the Government propaganda with regard to irrigation in the country, it having been decided to construct a series of canals for the purpose of reclaiming a large fertile tract at a cost of \$500,000.

PLANS FOR THE EXPOSITION IN ECUADOR.

Hon. W. W. Russell, Commissioner-General of the United States to the National Exposition which is to be held in Ecuador in the summer of 1909, is about to leave for Quito in order to make final arrangements for the participation of the United States. Mr. Russell has communicated with a large number of manufacturers and is anxious to have suggestions from them, or from other persons interested, as to what they would like to exhibit. He can be addressed care Department of State, Washington, District of Columbia.

ECUADOR'S TRADE AND PROGRESS.

In the general crisis attending trade relations in 1907 it is noteworthy that the foreign commerce of Ecuador for that year showed an increased valuation of nearly \$1,500,000. This is the more remarkable from the fact that the increase was on the side of imports almost entirely, thus showing the improvement in the purchasing power of the country. Total trade values were \$21,643,200, France taking first rank as a receiver of exports and Great Britain retaining her place as chief supplier of imports. Cacao figures for more than half of the total export value and 50 per cent of that product is shipped to France. The United States occupies second place on both export and import lists of the country. With the settlement of the Guayaquil and Quito Railway contract in a manner satisfactory both to the Government and to the corporation of foreign bondholders as reported by United States Minister Fox and officially noted in the Ecuador Government organs, the administration of President Alfaro is enabled to complete many works of public utility.



HONORABLE JOHN GARDNER COOLIDGE,

Former Envoy Extraordinary and Minister Plenipotentiary from the United States to Nicaragua.

Photograph by Harris & Ewing.

DIPLOMATIC SERVICE OF JOHN GARDNER COOLIDGE.

The Honorable John Gardner Coolidge, Envoy Extraordinary and Minister Plenipotentiary of the United States to Nicaragua, has presented his resignation to the State Department, effective November 19, 1908. Mr. Coolidge entered the diplomatic service May 22, 1902, as Secretary of Legation at Peking, China; was named Secretary of the Embassy at Mexico City January 10, 1907; and on June 5 of the present year was given his ministerial appointment.

RAILWAY CONSTRUCTION IN GUATEMALA.

Following upon the successful termination of her interoceanic route, the Republic of Guatemala is reported to be entering upon a contract for an intercontinental line and the ultimate establishment of an all-rail connection with the United States. The projected line is to reach the Mexican frontier at Ayutla and the proposed widening of the gauge of Guatemalan roads will enable the transfer of trains to be made without difficulty.

THE MINES OF HONDURAS.

In connection with the information concerning the inauguration of a new railroad line from the Atlantic coast to the capital of Honduras, penetrating a region known to abound in minerals of great value, the report contained in this issue of the Bulletin on mining conditions in the Republic is pertinent. From the Rosario mining property, which is said to be the best equipped in the country, over \$12,000,000 worth of ores have been taken, and it is confidently predicted that the application of modern methods of exploitation generally would result in a vast increase in the output of other sections.

MEXICO'S INDUSTRIAL PROGRESS.

The establishment of a huge canning and packing establishment in Mexico City in 1905 was regarded as the inception of a great enterprise, but the reorganized company's prospectus carries with it the opening of two auxiliary plants, making a total of four under the management of a national packing company, and the monopoly of the beef-packing business of Mexico. The importance attached to the petroleum industry of the Republic is evidenced by the widespread interest in the burning of one of the great wells of the country, while the report made on the oil regions of Mexico by the United States Geological Survey proves the yet unexploited values of these deposits. Of not less importance is

the establishment of a great cement plant in Hidalgo, while the connection of the port of Manzanillo on the west coast with the interior by the newly opened railroad from Tuxpan will open up vast commercial possibilities on the Pacific side of the Republic. The breakwater at Manzanillo is said to be a more imposing work than those of Cherbourg and Plymouth. Mexican exhibits made at the New England Food Fair in Boston occasioned the most profound interest, and on the day set aside as "Mexico's Day" emphasis was placed in the delivery of speeches on the value of the exchange of products between Mexico and the United States.

PARAGUAY'S TRADE VALUES.

In the statement as to the value of foreign commerce transacted by Paraguay the latest figures covering the year 1907 show a total of \$11,097,382, or over \$2,000,000 advance as compared with the preceding year and \$1,000,000 more than a previously published estimate. The neighboring Republic of the Argentine is the principal purchaser of Paraguayan exports, while the sole declared item shipped to the United States is known as "oil of petitgrain," an essence extracted from the leaf of the orange tree.

PURPOSES OF THE NEW PRESIDENT OF PERU.

President Leguia greeted his people for the first time in his executive capacity at the opening of the regular session of the Peruvian Congress in September, 1908. After paying high tribute to his predecessor in office, he reiterated his intention of carrying out the high policies which had characterized his tenure of power. The questions of increasing immigration in the country, the completion of railway systems, the encouragement of educational measures, the irrigation of larger coastal tracts, and the sanitation of ports and cities were all considered, and forecast made of the continued progress of the Republic.

ECONOMIC CONDITIONS IN SALVADOR.

The United States Vice-Consul in San Salvador having requested from the Government of Salvador a general statement of economic conditions prevailing throughout the Republic, the reply was published in the "Diario Oficial," the whole making a valuable résumé of the status of the country. The annual coffee crop was stated at about 37,500 tons, valued at \$5,000,000, the amount sent to the United States figuring for about \$1,000,000. The crop of 1907 was, however, somewhat short while the 1908 production is estimated at about 35,000 tons. Another item



HONORABLE HENRY W. FURNISS,
Envoy Extraordinary and Minister Plenipotentiary from the United States to Haiti,
Photograph by Harris & Ewing.

of importance on the export list of the country is comprised in mineral ores, gold and silver leading. The mining districts are said to be very rich and the construction of adequate transport facilities would greatly stimulate the output from these sections. In the first half of the present year, total exports of merchandise from the Republic are valued at nearly \$5,000,000.

UNITED STATES MINISTER TO HAITI.

The Hon. Henry W. Furniss, Envoy Extraordinary and Minister Plenipotentiary of the United States to the Republic of Haiti, first entered the Diplomatic Service on January 14, 1898, as Consul to Bahia, Brazil, where he remained until November 23, 1905, when he was appointed to his present post by President Roosevelt.

PHARMACIES IN URUGUAY.

A new bill regulating the practice of pharmacy in Uruguay has been presented to the National Congress which is intended to safeguard in every manner possible the health of the public. The holding of medical congresses and the signing of sanitary conventions have greatly stimulated the general interest in pharmaceutical studies and the Government is awake to the necessity of providing for all contingencies in the matter.

COMMERCIAL TRANSACTIONS OF VENEZUELA.

In reporting on the foreign trade of Venezuela during the calendar year 1907, the "Gaceta Oficial" shows a slight loss in exports and a gain in imports as compared with the preceding twelve months, the total valuation for both branches of trade being \$27,028,200. In exports placed at \$16,256,560 coffee ranks first, for \$7,232,900, the shipments being nearly 2,000,000 pounds less than those sent abroad in the fiscal year 1906–7. On the other hand, both cacao and rubber show important gains in quantity and value. The United States stands first as a receiver of Venezuelan products, figuring for \$6,100,000.

THE NEW MINISTER FROM PANAMA.

The International Bureau of American Republics takes particular pleasure in welcoming Mr. C. C. Arosemena, the new Minister from Panama to the United States, as a member of the Governing Board. Mr. Arosemena has been Secretary of Legation in Washington since Panama became a Republic. The distinction of being made head of the Legation is a well merited reward.



NDER the auspices of the Government of Costa Rica there has recently been issued, in Washington, an extremely interesting book, in which are published the observations of Prof. H. PITTIER on the "Common Plants of Costa Rica." These observations were made in the course of seventeen years of explorations in the Republic, a large part of the time under the direction of "Instituto Físico-Geográfico," whose services to the country have been so great and profitable. Commenting on the work, the Minister from Costa Rica in the United States, Señor Don Joaquin Bernardo Calvo, states that after a preface by Prof. O. F. Cook, Chief of the Bureau of Plants in the Department of Agriculture of the United States, there follows a valuable and brilliant introduction covering a history of botanical exploration in Costa Rica, begun in 1846 by the Danish naturalist, Andrés Sandoe Oersted, to which work the efforts of such notable scientists as Drs. Moritz Wagner, Carl Scherzer, Alejandro Frantzius, Carlos Hoffman, Herman Wendland, Donnell Smith, Polakowsky, Lehman, Biolly, Tondúz, and others have contrib-The book contains 176 pages, quarto, and 31 fine photographic reproductions. Professor PITTIER reports that his investigations have resulted in the study of 16,000 specimens, representing as many locations, and of about 5,000 plant species. He adds that, considering all things, no country of America has been so thoroughly explored, and that the plant life of Costa Rica is at the present time the richest of its class from the Rio Grande to the Strait of Magellan. fessor Pittier is employed in the Department of Agriculture at Washington in the Bureau of Plants, and has published several works covering some of the branches of his extensive knowledge. He is also the author of an official map of Costa Rica shortly to be issued in Germany.

The great interest felt throughout the mining world with regard to the projected new law governing the mineral industry, under consideration by the Mexican Government, renders of peculiar significance "The Official Mining Directory of Mexico" (Spanish and English), recently received by the Columbus Memorial Library, being the tenth volume of a series of illustrated works dealing with the

great resources of that Republic, published by John R. Southworth and Percy G. Holms under government authorization. The annual publication of this volume has become a necessity in order to keep abreast with the development of prospects, the consolidation of interests, of changes of ownership, and the abandonment of properties. Among the subjects adequately treated are: The history of mining; number and geographical distribution of mines; a sketch of the International Bureau of the American Republics; the processes followed in Mexican mining treatment; an outline of the functions of the Mining Chamber of Mexico; the main provisions of the mining law and a complete directory, State by State, of the various mining properties, their capitalization, output, and official connections. Not the least valuable section of the volume is devoted to a glossary of Mexican mining terms, the compilation of which is accredited to "The Transactions of the American Institute of Mining Engineers." The whole is a book of reference of unquestioned merit.

As a standard work of reference, "The Argentine Year Book 1907-8" (John Grant and Son, Buenos Aires), maintains its record in all matters concerning the progress and development of the Republic, and may be regarded as an authority on the resources of this magnificent country. Data on commerce and industries are brought down to the close of the year 1906 and, in the case of the former, supplementary information is added for the first six months of 1907. Argentine history, political institutions, financial status, economic conditions, industrial development, physical geography, legal enactments, railway construction, educational progress, and, in fact, every phase of national life, find their adequate delineation in this valuable publication. Attention is called to the discrepancies existing in the trade returns compiled from Argentine sources and those of the purchasing and selling countries, with a statement as to the impossibility of reconciling the various reports in the present conditions attached to compiling of commercial statistics for comparative purposes. Maps, diagrams, and illustrations add illumination to the mass of facts set forth in the subject-matter.

On the Plantation, Cultivation, and Curing of Para Indian Rubber (*Hevea brasiliensis*), with an account of its introduction from the west to the eastern tropics, by H. A. Wickham. London, Kegan Paul, Trench, Trübner & Co. (Limited). 1908. Pages 78.

This is a thoroughly instructive book for the mere student of tropical agriculture, but it will prove doubly valuable for the practical

man who wishes to start a plantation of rubber trees on modern lines. It is of decided interest because Mr. Wickham speaks from a long and intimate experience both in Brazil, where he was a rubber agent, and in the eastern possessions of Great Britain, into which he finally introduced, with commercial as well as botanical success, the Brazilian rubber tree. The main portion of the book is given to instruction concerning the establishment of a plantation in entirely new soil. This is so systemized that any intelligent agriculturist can follow the rules. Mr. Wickham's results were obtained with the Hevea, which he thinks the best tree for rubber culture and cultivation, but the principles may be applied, with allowance for change in local conditions, to other trees that yield a rubber latex.

Under the able administration of Señor Don Pedro Manuel Ruiz (Director General de Estadística), the Bureau of Statistics of the Venezuelan Government is issuing its trade reports with accuracy and dispatch. In order to simplify data for comparative purposes, it was decided from July 1, 1908, to issue complete reports not only for half-yearly periods, or for fiscal years, as previously done, but also to make public statements of the commercial transactions of the country for calendar years. Thus, information as to the destination and origin of each article shipped and received by the ports of the country is readily available in the Statistical Bulletin (Boletín de Estadística), issued monthly by the Government, while the "Gaceta Oficial," in its daily numbers contains details as to the financial, industrial, educational progress of the Republic, supplied by the same authority.

Sönnenblicke vom lateinischen Amerika, von Carl Beck (New York). Snap shots of Latin America.) Berlin, SW 48, Leonhard Simion Nf., publisher. 1908. Pages 231. It is becoming popular for surgeons to write books dealing with matters outside their technical profession. They are keen observers as a rule and judge from a wellestablished standpoint. This latest contribution on travel is written by one of New York's most distinguished surgeons, a man of strong Teutonic blood and education, but a hearty American by adoption and residence. Doctor Beck had the pleasure of a winter cruise on a German steamer to Jamaica, Colombia, Costa Rica, and Panama, and tells the public about it. The book is altogether personal, and the impressions almost in every case as much snap shots as the 96 photographs illustrating the text. It is to be regretted that he did not study more carefully the history of Colombia, for some of the statements about that Republic are based more on gossip than on fact. One decided value possessed by the book is its description of the hospitals established in the seaports visited.

Clave Telegrafica A B C. Quinta edición. 1908. New York, American Code Company. Pages 1400. To realize the immensity of business and the increasing importance of relations between Latin America and the rest of the world it is only necessary to open such a book as this latest publication of the A B C (American Code Company). There are over 100,000 combinations transmissible in Spanish by this code, and there are 3,000 blanks offered for personal cipher use. No practical idea can be conveyed of its value to one not familiar with a code book, but to the business man, to whom a code is an economical necessity, it would seem that no more complete or serviceable tool could be devised for telegraphic correspondence between himself and (Spanish) associates. Among Spanish business men themselves, whether in the Old World or the New, the code long ago proved its worth, as will be acknowledged by the fact that this is the fifth edition.

No. 21, Consular Reports, Annual Series, issued by the Department of Commerce and Labor of the United States, embodies the reports transmitted to the Bureau of Manufactures by the various consular officers credited to the Brazilian Republic. The commerce of the whole country is covered by Consul-General George E. Anderson, at Rio de Janeiro, who gives the trade figures as \$196,964,149 for imports and \$263,299,744 for exports during 1907. From Bahia, the district is reported on by Consul Pierre Paul Demers; from Pernambuco, by Consul George A. Chamberlain; from Santos, by Consul John W. O'Hara; and a general statement is made by Hon. John M. Carson, Chief of the Bureau of Manufactures, in transmitting the report to the Secretary. The whole is a valuable document on Brazilian affairs, economic, financial, and industrial.

The literature on Mexico has been further enriched by a book entitled "Aus Mexiko," by Orla Holm, with contributions on economical and political conditions by Ralph Zürn. The publishers are F. Fontane & Co., Berlin. Among other excellent information, the author gives voice to the statement that it is absolutely necessary to know some Spanish before satisfactorily visiting Mexico. This important factor is only too often overlooked, and to it must be attributed the disappointments experienced regarding so interesting a country. It is only natural that a person if not perfectly master of the language, at least sufficiently so to be able to visit the more out-of-the-way places, will enjoy his stay a great deal more and will derive greater benefit from the study of the country than the person who only sees the superficial things which are always shown to tourists. The book is not illustrated.

A descriptive pamphlet of "The Atrato in Colombia" has been forwarded to the Columbus Memorial Library by the Minister from Colombia in the United States, Señor Don Enrique Cortes, as an adequate exposition of what is probably the richest region in the confines of the Republic. The large territory of the Choco or Atrato region, as it is called, because of the great river traversing it, is rich not only in valuable minerals, but also in agricultural lands, while large tracts are covered with forests producing all varieties of timber and resinous plants.

BULLETIN OF THE CENTRAL AMERICAN INTERNATIONAL BUREAU.

The Bulletin issued by the Central American International Bureau inaugurated on September 15, 1908, in Guatemala has been received by the International Bureau of the American Republics at Washington, the subject-matter appearing in both Spanish and English.

Publication is made of the convention whereby the establishment of the Central American Bureau was agreed upon during the course of the Central American Peace Conference held in Washington in the latter part of 1907; also of the decree of the President of Guatemala fixing the date and location for the inception of the bureau.

Forecast of the great possibilities of the bureau is made by Dr. A. Batres Jauregui, in a contributed article, who states that the mission of the body is to promote the common interests of Central America.

Other subject-matter includes the relation of a curious incident happening in Guatemala in consequence of the coming of a French emissary in 1811, by Señor Don Ramon A. Salazar; a paper on the unification of teaching, by Señor Don Manuel Valle; one on the unification of legislation, by Señor Don Alberto Mencos; and a final word on the development of commerce between the Central American populations as one of the preferable means of realizing their union, by Señor Don José Matos.



WHAT IS IN THE MAGAZINES

N a consideration of the commercial and economic status of Brazil, published in the October, 1908, number of "Revista de Derechos Historia y Letras" (Buenos Aires), it is stated that the immense possibilities of the country have never been thoroughly exploited. Apart from its well-known coffee and rubber production, the States of Amazonas, Para, Bahia, and Rio de Janeiro might supply the whole world with dried and salted fish; in the mineral kingdom abundant mines of gold, silver, and copper exist; diamonds are found in the Tubagy River and its affluents; mercury on the margins of the Boguassu; mountains of nitrate in Yaguaruihyra, also magnetic iron, manganese, marble, etc. The State of Espiritu Santo is renowned for its lumber and dyewoods, while this section formerly exported coffee, sugar, cotton, hides, fish, and cigars. It also produces a variety of silk of the highest rank, "Bombyx." The State of São Paulo is rich in textile plants, and Minas Geraes, apart from its mineral deposits, has immense possibilities as a producer of mineral waters. Formerly the State of Parana exported rice, barley, and other vegetable products, and Pernambuco cotton is of the high grade known as "Sea Island." In Piauhy the pastoral industry offers alluring prospects. With the development of transport facilities and the application of modern methods of exploitation, the enormous wealth of the Brazilian Republic will give it proper rank among the nations of the world.

The "Bankers' Magazine" for October, 1908, bears the sub-title "Mexican Banking Number," and contains an extended consideration of the financial institutions of the capital, to be followed in succeeding issues by articles on the banks of the several States of the Republic. A large part of the capital for Mexican banks has been supplied by France, and it is worthy of note that during the crisis of the latter months of 1907 no failures were reported from Mexico. The preservation of Mexico's credit and the solid advancement and prosperity of the country have been largely due to the wisdom and expert knowledge of the Minister of Finance, Mr. Limantour, who has been a worthy coadjutor of President Diaz in his labors for the public good. The section devoted exclusively to Latin America, and covering miscellaneous items in the industrial life of the southern half of the western continent, is prefaced by the following statement of Presi-

dent Roosevelt on the occasion of the laying of the corner stone of the new Pan-American Building, in May, 1908:

In the century that has passed the development of North America has, on the whole, proceeded faster than the development of South America; but in the century that has now opened I believe that no other part of the world will see such extraordinary development in wealth, in population, in all that makes for progress, as will be seen from the northern boundary of Mexico through all Central and South America.

Under the whimsical title "To the Cold Land of Fire," Charles Wellington Furlong narrates in "Harper's Monthly Magazine" for November, 1908, the details of a trip made to Tierra del Fuego on a "tramp" steamer. From Sandy Hook (New York) to Sandy Point or Punta Arenas (Chile) the voyage was without event save the short stop in the harbor of Montevideo, studded with shipping from all parts of the world. From that point southward the same route was followed as was taken by the interpid Magalhães three hundred and eighty-nine years previously till final anchorage in the strait that bears his name. On the Argentine war ship Presidente Sarmiento the voyage was continued to Ushuaia, a small penal colony on the southern coast of Tierra del Fuego, and the southernmost town in the world, whence expeditions were projected to the homes of the Yaghan or Canoe Indians who inhabit the out-of-the-way shores of the bays and inlets in which the region abounds. The wondrous beauty of Mount Sarmiento, the pathetic memories awakened by a visit to Port Famine, and the excitements of the passage in and around the Fuegian Archipelago are graphically depicted, while adequate tribute is rendered to the courtesy of the officers and men of the Argentine Navy, by whom the success of the trip was greatly furthered.

[&]quot;Two South American Presidents" form the subjects of a sketch made by Charles M. Pepper for the "Review of Reviews" in its November issue, the careers of Señor Don Augusto B. Leguia, of Peru, and Señor Don Ismael Montes, of Bolivia, being outlined for consideration. The Peruvian Executive has recently been inaugurated and President Montes has continued in office for another year in consequence of the sudden death of President-elect Guachalla. Particular stress is laid by Mr. Pepper upon the unimpassioned progress of the recent elections in the two Republics, it being recognized that what has come to be called the "Root era" has had its effect not only in cementing the nations of the New World but also in unifying the interests and purposes of the individual countries. This national status is amply demonstrated in the commercial progress of

the Republics and in the high character required in its chief officials. Bolivian commerce is shown to have doubled within a decade, while that of Peru has increased 250 per cent. Tribute is paid to both Executives for their ready perception of the necessity for establishing communication facilities throughout their respective countries and for the development of their national resources.

"The Journal of American History" in its sumptuous second anniversary number for the quarter October-December, 1908, includes the record of a vovage made from the Philippines to America in 1697, by Dr. Francis Gemelli Careri, a distinguished Italian traveler. vovage, which formed part of a trip around the world, was made from Cavite on the King's annual ship or galleon, starting about the 1st of July and making its first port at Acapulco, Mexico, bearing the money and revenue of the King to Madrid. The length of time given for the trip was two hundred and four days, or nearly seven months, and the hardships and perils encountered, while they make fascinating reading, are only understandable as indications of the adventurous spirit of the times. Another reminder of Spanish traditions is furnished by the narration of "Adventures Along the Historic Santa Fe Trail," while the existing unity of feeling between North and South America is evidenced by the greetings sent to the American people through the "Journal" by President Pedro Montt, of Chile, forwarding his autograph portrait, which is reproduced, bespeaking the cordial friendship that exists through Pan America.

Interesting data concerning the "Rubber Industry in Tropical Mexico" is found in the November number of "The Pacific Monthly," it being adequately demonstrated that the cultivation of the plant has passed the experimental stage in the Republic. A reproduction of statistics shows that locally produced rubber for export to one New York firm increased from 7,000 pounds in 1900 to 182,219 in 1907, of which not more than 4,000 pounds were of the wild variety. As compared with the Ceylon production, which is safeguarded by prominent British capitalists, this output is greater than any shipments recorded prior to 1906, while it was in excess of all Mexican rubber shipments, of whatever kind, for the year 1897–98. Those sections of the States of Tabasco and Chiapas, lying in what is known as the rubber belt, possess all the climatic and physical conditions required for the development of this culture, while the projected opening up of the district by a new railway line will contribute powerfully to the stimulation of capitalized interest.

"The Pan-American Magazine" for October, 1908, devotes the bulk of its space to a consideration of the resources of the Mexican State of Chiapas, particularly as exemplified in its great coffee plantation in the Soconusco district. From these plantations it is estimated that the 1908 crop will approximate 15,000,000 pounds, with a value of \$1,500,000 gold, while the possibilities of the section are stated to be 100,000,000 pounds and \$10,000,000. Rubber, rice, cacao, and tobacco form other items of production whose marketable values have been sustained at home and abroad while the abundance of water makes the region adaptable to the development of other industrial life, and the Pan-American Railway facilitates the interchange of its products for the commodities of other lands.

Volume 1, number 1, of "El Mundo de Hoy" has been received in the November issue of that magazine sent to the Columbus Memorial Library. As its title indicates, it is a Spanish edition of the well-known periodical, "The World To-day," published in Chicago and prepared for circulation in Central and South America, Mexico, Cuba, Spain, Porto Rico, and the Philippine Islands. Primarily for the promotion of mutual knowledge between the nations of America, the quarterly issues of the magazine will also contain papers on such kindred topics as seem pertinent. The list of contributors to the initial number is ample forecast of the worth and excellence of its work. Many illustrations of picturesque and little-known sections embellish the pages.

An interesting narration of the fate of the "Last Pirates of the Spanish Main" is published in the "Outing Magazine" for November, the bulk of the story being the personal recollections of one of the survivors of the brig Mexican, which was the object of attack by the pirate ship Pinda. The apprehension and subsequent trial and execution of the outlaws at Boston, in 1835, were the occasion of great excitement at the time, though one of the band, having turned states evidence, was acquitted, and, as is naively stated, his erstwhile enemies in Salem afterwards "took the trouble to find the former pirate and spin a yarn or two with him over a cool glass and a long black cigar."

The series of papers on "Coffee Culture and Preparation," prepared for the "Tea and Coffee Trade Journal," furnishes, in the November number, information devoted to Latin-American countries with descriptions of the growing and marketing of the plant in Haiti, the Dominican Republic, Peru, Paraguay, Bolivia, and Cuba, and other

West Indies and the Guianas. While some attention is given in all of these countries to coffee culture, the production is not sufficient to render them separately important factors in the world's market, with the exception of Porto Rico (where the 1907 export was valued at \$4,693,004), Jamaica, and the Guianas.

Volume 1, number 2, of "El Noticiero" (San Francisco) has been received by the Columbus Memorial Library, and as its announced purpose is to devote itself entirely to the business interests of the United States in relation to the Spanish-speaking countries, publication is made in both English and Spanish. Of notable importance among other articles is a paper on the Tehuantepec Railroad, in which much valuable data is condensed, while California merchants are incited to renewed efforts in the matter of Mexican trade.

"The Spice Mill" for November continues its publication of the report on the "Coffee Industry in Spanish America," with a further consideration of the Guatemala production. Other coffee notes covering the Santos output and the culture in Columbia are reproduced from the October issue of the Monthly Bulletin, and publication is made of the statement recently prepared by the United States Consul-General at Rio de Janeiro, Mr. George E. Anderson, concerning the world's coffee production and distribution.

In its consideration of the march of events, "The World's Work" for November refers to the good work being done at Panama, not only in the matter of canal building but in the sanitary administration of the zone; also to the fact that the most powerful battle ship in the world was launched from a London yard in the autumn of 1908, built under contract with the Brazilian Government, and that two more of the same type are under construction.

Stating that the total consumption of coffee in Europe and America is 17,500,000 bags (132 pounds each) annually, William Harrison Ukers, in the "Saturday Evening Post" for October 31, 1908, details the growth of the coffee industry and outlines the efforts of the Brazilian Government to so regulate production and sale as to prevent "the breakfast cup from overflowing."

The oil treasure of Mexico is discussed in the "National Geographic Magazine" for November by Russell Hastings Millward,

United States Vice-Consul at Tampico, special attention being given to the disastrous results of the great fire at San Geronimo properties, where, in a conflagration lasting from July 4 to August 30, 1908, from 60,000 to 70,000 barrels of oil were consumed, with a monetary loss estimated at more than \$3,000,000.

"Petermann's Mitteilungen," volume 54, 1908, No. 8, contains an article by Prof. Dr. Fr. Regel, of Wurzburg, Germany, entitled "Zur Panamakanalfrage" (concerning the Panama Canal). It discusses briefly the events directly preceding the commencement of the construction of this great waterway and the work done up to the present. A map accompanies the article, which shows the two suggestions as to having one terminal lake with two locks or one terminal and one central lake and four locks.

Among the items of Latin-American interest contained in the "Geographical Journal" (London) for November, 1908, are preliminary reports of the Swedish Magellanian Expedition, 1907–1909, an account of the survey of the Pilcomayo River, and comment on the valuable work done by Doctor Farabee's expedition to Peru and Bolivia under the auspices of the Peabody Museum.

In "Dun's Review" for November publication is made of an interesting article on "Productive Guatemala," prepared by Robert A. Wilson, of San Pedro Sula, Honduras. It is a valuable résumé of official and general information concerning the country.

"Berichte über Handel und Industrie" for October 27, 1908, publishes two articles, one on the traffic and economic conditions on the Isthmus of Tehuantepec and the other on the cultivation of wine in Chile. The first is a report of the German Vice-Consul at Salina Cruz and the second a report of the commercial expert attached to the German Consulate at Valparaiso.

The Bureau has received from the "Berliner Lithographisches Institut" a map showing the principal steamship lines of the world which carry mails. This map has been compiled in the Exchange Bureau of the Government Post-Office. Besides the map, an index is given of the lines, the distances in nautical miles between the different ports, and the number of days at sea.

"Der Tropenpflanzer," one of the most valued publications on file in the Bureau, always contains excellent articles, and among them the following deserve special mention as treating of the products and industries of the Latin-American Republics:

"Die südamerikanische Wanderheuschrecke" (The South American migratory locust), by Ludwig Friderici, of Cordoba, Argentina, in the July, 1908, number.

"Die Entwicklung der Extrativindustrie Brasiliens" (The Development of the Economic Conditions of Brazil), by C. Bolle, in the July, 1908, number.

"Krankheiten der Baumwolle" (Diseases of the Cotton Plant), by Dr. F. C. von Faber, Assistant Scientific Expert of the Imperial Biological Institution for Husbandry and Forestry. In the August and October numbers.

"Versuche über die Verwendung von Kunstdünger in der Kultur des Kaffees" (Experiments in the Use of Compost for the Cultivation of Coffee), by Gustav Helmrich, of Finca Samac, near Coban (Alta Verapaz, Guatemala). Supplement to the August, 1908, number of "Der Tropenpflanzer," illustrated, 220-pages.

"Der Ixtle und seine Stammpflanzen" (Ixtle and its Parent Plants), by Dr. Rudolph Endlich. Supplement to the October, 1908, number of "Der Tropenpflanzer." Illustrated, 283 pages.

"Die Gewinnung des Parakautschuks am Amazonas und seine Zukunft" (Extraction of the Para Rubber on the Amazon, and its Future), by D. Sandmann. This is an extract from the report made to the Imperial Colonial Office on a voyage to Brazil. October, 1908, number.

"Zur Lage der argentinischen Weinproduktion" (Concerning the Production of Wine in Argentina), by L. Friderici, of Cordoba, Argentine Republic, in the October, 1908, number.



The National Exposition held at Rio de Janeiro closed November 15, 1908.

There is to be motor-boat racing on Lake Chapala, near the city of Guadalajara, Mexico.

A recent census of Uruguay shows a population of 1,111,758 persons, 306,000 of whom reside in the city of Montevideo.

A new map of the State of São Paulo, Brazil, has been prepared by the Geographical and Geological Commission of that State.

A new custom-house is to be erected in the city of Buenos Aires, costing, approximately, \$1,650,000.

According to the latest returns, the real estate of Valparaiso, Chile, is valued, for purposes of taxation, at \$118,325,000.

The city of Buenos Aires has contracted a loan of \$2,000,000 paper, for the construction of houses for workingmen.

The estimated cost of the Chilean Navy for the year 1909 amounts to \$4,936,420, against \$5,681,896 for 1908.

The Valparaiso Telephone Company of Valparaiso, Chile, has opened up a new telephone service with 4,000 subscribers.

A School of Wireless Telegraphy is to be established at Playancha, Chile. Apparatus with a radius of action of 300 miles has been purchased.

The Yaco-Sulimary highway, connecting the seats of government of Alto Acre and Alto Purus, Brazil, was opened for traffic the latter part of September.

The orange crop of Cuba in 1908 is estimated as the largest in the history of the industry in the Republic, half a million crates representing the output.

Under a new law passed by the Colombian Congress, teachers in the primary schools in Colombia will hereafter be required to be citizens of the Republic.

The Chilean paper peso has increased in value until it is now worth 22 cents United States gold, against about 15 cents at the beginning of July.

During the first half of November, 17,000 immigrants arrived in Buenos Aires. This is the largest number ever registered for a similar period of time.

During the past eighteen months more than 900 Indians have attended the mission school on Dawson Island, Chile. This is the most southern school in the world.

The quantity of tobacco available for export from Colombia in the present season is reported as about the same as in 1907, or from 8,000,000 to 10,000,000 pounds.

At present the Chilean Government has under construction buildings valued at \$4,895,273 United States gold, all of which should be completed before the close of 1909.

Receipts of bananas in the New Orleans market from Central America and the West Indies have grown from 800,000 bunches in 1880 to 10,800,000 in 1907, and 11,000,000 in 1908.

The new sugar plant at Sincerin, near the capital of Colombia, is to have a capacity of 22,000 metric tons per annum. The cane planted and ready for harvest this year occupies 3,706 acres.

The Chilean Government has in contemplation the establishment of forest reserves in different parts of the country. In one place it has under consideration 35,000 hectares, or about 85,485 acres.

Under date of July 31, the Congress of Costa Rica, by Decree No. 36, of July 29, removed for a period of five years the export duty on pearl shells. (The duty was 0.02 colon (0.9 cent) per kilo (2.2 pounds).

United States capital is reported to have become interested in the cultivation of caravonica, or tree cotton, which, it is said, can be grown most successfully in Mexico, and sold at higher prices than the best grades of other cotton. Two companies, each capitalized at \$1,000,000, have been organized, and will plant 3,000 trees.

The work of rebuilding the city of Valparaiso, Chile, is now nearly completed. Many of the streets have been widened and straightened and new streets opened at great expense. Much of the lower part of the city is to be raised from 2 to 4 feet. These improvements will add much to the appearance and conveniences of the city, and will cost about \$10,000,000.

Should the balance of the season continue favorable, there will be a surplus of from 6,000,000 to 7,000,000 bushels of wheat for export from Chile next year, against from 4,000,000 to 5,000,000 bushels for this year. The stock of wheat now on hand is ample for the needs of the country until the new crop can be harvested, which will be about the end of December.



PRESIDENT ROOSEVELT AND LATIN AMERICA

ONSPICUOUS among the subjects discussed by President Roosevelt in his message to the Congress of the United States, delivered on December 8, 1908, was his appreciation of the mutual advantages arising from a closer relation, both in commercial and economic matters, between the nations of the Western Hemisphere. In regard to the Latin American Republics he said:

LATIN-AMERICAN REPUBLICS.

The commercial and material progress of the twenty Latin-American republics is worthy of the careful attention of the Congress. No other section of the world has shown a greater proportionate development of its foreign trade during the last ten years and none other has more special claims on the interest of the United States. It offers to-day probably larger opportunities for the legitimate expansion of our commerce than any other group of countries.

These countries will want our products in greatly increased quantities, and we shall correspondingly need theirs. The International Bureau of American Republics is doing a useful work in making these nations and their resources better known to us and in acquainting them not only with us as a people and with our purposes toward them, but with what we have to exchange for their goods. It is an international institution supported by all the governments of the two Americas.

PANAMA CANAL.

The work on the Panama Canal is being done with a speed, efficiency, and entire devotion to duty which make it a model for all work of the kind. No task of such magnitude has ever been undertaken by any nation, and no task of the kind has ever been better performed. The men on the isthmus, from Colonel Goethals and his fellow-commissioners through the entire list of employees, who are faithfully doing their duty, have won their right to the ungrudging respect and gratitude of the American people.

OCEAN MAIL LINES.

I again recommend the extension of the ocean mail act of 1891, so that satisfactory American ocean mail lines to South America, Asia, the Philippines, and Australasia may be established. The creation of such steamship lines should be the natural corollary of the voyage of the battle fleet. It should precede the opening of the Panama Canal. Even under favorable conditions several years must elapse before such lines can be put into operation. Accordingly I urge that the Congress act promptly where foresight already shows that action sooner or later will be inevitable.

CUBA.

In Cuba our occupancy will cease in about two months' time. The Cubanshave in orderly manner elected their own governmental authorities, and the islands will be turned over to them. Our occupation on this occasion has lasted a little over two years and Cuba has thriven and prospered under it. Our earnest hope and one desire is that the people of the island shall now govern themselves with justice, so that peace and order may be secure. We will gladly help them to this end. * * *

ANNUAL REPORT OF THE DIRECTOR

HE annual report of the Director of the International Bureau of the American Republics, covering the fiscal year ending June 30, 1908, was presented to the Governing Board of the Bureau at its regular monthly meeting for November.

The full text of the report has, in deference to the growing interest displayed in the work of the Bureau, been issued as a separate publi-

cation, copies of which may be obtained upon application.

The results accomplished through the work of the International Bureau during the year amply justify its maintenance and liberal support by the republics of the Western Hemisphere, the period being one of remarkable expansion and growth. Among the causes contributing to these results, the visit of the Secretary of State of the United States to the Latin-American Republics in 1906 and 1907 was of primary importance in the development of closer relations among the nations interested. This was seconded by the reciprocal interest on the part of the diplomatic representatives in Washington and furthered by the generous gift of Mr. Andrew Carnegie of \$750,000 to be expended in the construction of a new home for the Bureau, while the efforts of new administrative officers were directed toward a general upbuilding of the community of sentiment and business between the nations of America.

THE COMMERCE OF LATIN AMERICA.a

In 1907, the total foreign commercial transactions of the 20 republics of Latin America were represented by \$2,100,000,000, as compared with \$1,966,000,000 in 1906 and \$924,000,000 in 1897, an increase in the decade of 120 per cent, or an annual gain of over \$100,000,000.

In considering the specific gains made by the various countries from 1897 to 1907, it is shown that the Argentine Republic increased its trade value from \$193,000,000 to \$583,000,000; Brazil, from \$235,000,000 to \$494,000,000; Mexico, from \$154,000,000 to \$240,000,000; Chile, from \$100,500,000 to \$209,500,000; Uruguay, from \$49,000,000 to \$70,000,000; Bolivia, from \$18,000,000 to \$55,000,000; Peru, from \$25,000,000 to \$50,000,000; Paraguay, from \$5,000,000 to \$10,000,000; the Dominican Republic, from \$6,000,000 to \$12,000,000; Haiti, from \$7,000,000 to \$11,000,000, and that Cuba, which in 1899 carried on a foreign trade worth \$125,000,000, had increased its value

to \$209,000,000 in 1907. Thus, increased trade ratios of 100 per cent and more are indicated for many of the countries during the ten years in reference.

The five Republics of Central America show a general trade increase from \$42,000,000 to \$58,000,000 in the decade and Panama reports a foreign trade in 1907 of \$25,000,000.

THE SHARE OF THE UNITED STATES.

The share taken by the United States in this trade interchange made the gratifying increase from \$261,000,000 in 1897 to \$596,000,000 in 1907, a gain in the ten years of \$335,000,000, or 130 per cent. As compared with 1906, an advance is noted in 1907 of \$12,000,000, despite the general trade depression; export values from the United States to Latin America showing a gain of \$20,000,000 in the year.

In the ten years' period (1897–1907) United States exports to this field grew from \$76,000,000 to \$256,000,000, an increase of \$180,000,000, or 240 per cent, while in the same time receipts of Latin-American products by the United States advanced from \$185,000,000 to \$340,000,000, a gain of \$155,000,000, or about 90 per cent.

EUROPE IN LATIN-AMERICAN TRADE.

This record, however admirable, is far from what it should be, as is demonstrated by the preponderating share of Europe in the valuation of Latin-American trade. In the total of \$2,100,000,000, Europe stands for \$1,354,000,000 as compared with \$596,000,000 on the part of the United States, while between the various nations of Latin America trade values figure for but \$150,000,000.

For South America proper, the share of the United States is represented by only \$238,000,000, or less than one-sixth out of a total of \$1,544,000,000, notwithstanding a growth of nearly \$105,000,000 in ten years.

The comparative paucity of trade intercourse between the Latin-American countries is due to a perfectly natural condition growing out of the fact that the bulk of the exports from all is composed of raw products while imports consist chiefly of manufactured articles.

BETTERMENT OF TRADE BETWEEN THE AMERICAS.

Unquestionably the most potent factor in bringing about a greater trade current between North and South America would be a service by first-class fast mail, passenger, and express steamers between the ports of the two sections on both the Atlantic and Pacific coasts. A quick, convenient, and comfortable means of transport by sea is just as great a necessity as are facilities for land communication, and it is a self-evident proposition that neither travelers nor tradesmen will fol-

low the sea routes between the Americas to their own discomfort so long as adequate accommodations are to be obtained in the passage to Europe. A voyage from Buenos Aires to European ports is made with greater speed and comfort than to New York, while from New York to Valparaiso the best established line of travel leads across to Southampton, back to the Argentine Republic, and across the continent in a straight line, rather than due south via Panama. Another handicap to trade improvement is the lack of adequate mail facilities between the Americas. Efforts to meet the requirements in the case are being made by Europe and Japan, while Peru, Chile, Uruguay, Brazil, and the Argentine Republic are improving their steamship service. It is the United States alone that seems to be taking no steps to meet this class of competition.

Other agencies whose importance has been fully realized by the Bureau in its work of development and the absence of which has been keenly felt are: Banking firms controlled by United States and native capital; representatives of business houses who shall be thoroughly acquainted with the language and customs of the countries visited; the careful preparation of printed catalogues and advertisements; the proper packing for freight transport; in fine, a thorough businesslike handling of the situation at all points.

The credit system prevailing in Latin America may not meet the views of United States dealers in all particulars, but its profitable employment on the part of European merchants would appear to be sufficient proof of its effectiveness, while data as to the standing and credit of mercantile enterprises in Latin America are readily available through the various United States agencies established in the principal cities.

The Consular Service of the United States is an efficient aid in the movement toward a better understanding of trade conditions, and the Bureau makes abundant use of the reports furnished through this source. In this connection the Bureau urges the necessity that large business houses in the United States should send young men of their offices to Latin America, not at first to get business, but to learn the language, study the people, the conditions of life and trade, and finally to become efficient, trusted, and capable representatives.

The recognition of this last requisite is being made in the greater importance attached of late to the study of Spanish in the colleges and high-grade schools of the United States.

WHAT THE BUREAU HAS ACCOMPLISHED.

The unfailing efforts of the Bureau have been directed toward bringing about the conditions noted. A record of its achievements shows that it has caused the entry of many firms into the Latin-American field which otherwise would have held aloof; it has sought to develop trade between the Americas by an exposition of little-known facts; it has encouraged the study of the necessary languages in the colleges and universities of the country; it has furnished libraries with volumes of informatory and descriptive character in both English and Spanish; it has directed the attention of students toward the importance of the Latin-American economics and has aided all investigators by supplying the required data.

As a result of its propaganda travel from the United States to Latin America has increased nearly 50 per cent during the last year,

and conditions of transport are greatly improved.

Regularly each month 10,000 copies of its Bulletin are distributed, while the pamphlets, maps, handbooks, reports, and statistical data issued, from the basis of much of the world's knowledge concerning Latin America.

It housed and assisted the Central American Peace Conference, which met in Washington during the last months of 1907, and, acting for the International Sanitary Bureau, it was charged with all the preliminary arrangements for the Conference in Mexico, while it undertook the publicity work in connection with the Fifth Pan-American Medical Congress, convened in Gautemala.

In cooperation with the Pan-American Committees appointed by the various governments, it is making effective the programme of the last Pan-American Conference held at Rio de Janeiro and is assisting in the preparation for the next Conference of Buenos Aires, scheduled for 1910.

It has been an active agency in the Pan-American Scientific Congress of Santiago, in session during December, 1908, and has made known the value of the Expositions already held or in prospect throughout Latin-America and the importance of participation on the part of all America in American enterprises.

The immense correspondence of the Bureau, averaging 3,000 letters monthly and covering a vast range of subjects on which information is not obtainable elsewhere, is an indication of its value as a center of knowledge; while its library of 17,000 volumes, to which additions are constantly being made, has rank among other collections of Americana.

In its administrative work, systematic efficiency has been attained, so that the daily requirements are met with promptness and thoroughness on the part of the staff of employees.

THE MONTHLY BULLETIN.

Although the Monthly Bulletin is but one of many of the features of the Bureau's work, the conclusion, based upon the increasing demand for it and its educational value, is that its publication alone

would justify the support of the International Bureau by the United States and other American Republics.

Many changes and improvements have been recently made in its character and appearance, with a consequent increase in its popularity and worth.

During the coming year it will contain carefully prepared and illustrated articles descriptive of the products, resources, industries, and peoples of the American Republics; in fact, all topics will be considered which will disseminate such valuable information as may bring about a new era of commercial and friendly relationship between the Americas.

OTHER PUBLICATIONS.

The work outlined for the coming year includes the preparation and revision of handbooks of the Latin American Republics, following the same lines of information found so valuable in the past and supplemented by such features as have been effective in furthering the purposes for which they are intended. In addition, it has been proven that the free distribution of pamphlets, folders, and leaflets covering certain specific subjects has served a useful purpose in educating the general public as to the resources and possibilities of the countries treated. Through this means 150,000 pieces of printed matter have been distributed, no nation, state, or territory having been neglected. This class of publications will be continued and augmented during the coming year.

INDORSEMENT BY COMMERCIAL ORGANIZATIONS.

The practical workings of the Bureau have received the unsolicited commendation of leading commercial organizations throughout the United States, a noteworthy instance of which is the unanimous resolution passed at the last Trans-Mississippi Commercial Congress, attended by 25,000 delegates from States west of the Mississippi River, indorsing in the strongest manner the work and propaganda now being carried on.

ADDRESSES BY THE DIRECTOR.

A contributory factor in the newly awakened interest in Latin-American topics has been the delivery of addresses by the Director of the Bureau before commercial and educational institutions. Thirty different States have been visited and hundreds of thousands of persons have been reached through the publicity given in newspapers and standard periodicals to a consideration of the subjects discussed by him on these various occasions.

NEW HOME FOR THE UNION.

The stability and utility of the Pan-American Union is demonstrated by the concerted action of the many republics composing it in the erection of a new bureau building, the corner stone of which was laid with imposing ceremonies last May, and which will be ready for occupancy in the latter part of 1909.

THE CENTRAL-AMERICAN PEACE CONFERENCE.

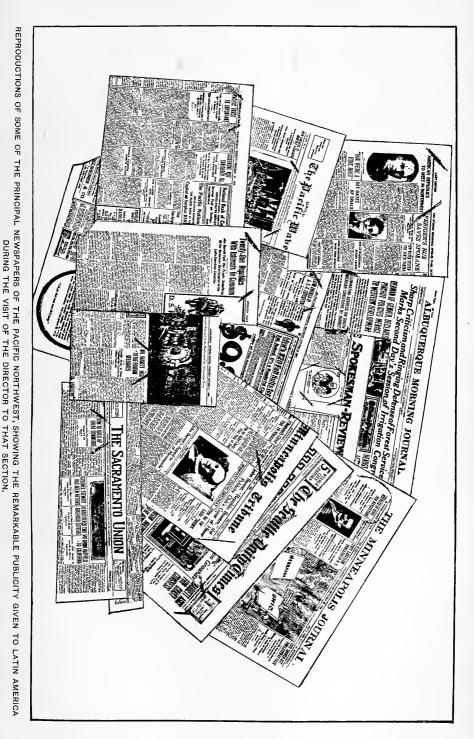
Growing out of the Peace Conference held by the States of Central America during 1907, under the auspices of the Bureau, many conventions have been signed, and work accomplished which will contribute to a notable economic advance on the part of the signatory republics. Of notable value is the establishment of the Central American Court of Justice sitting at Cartago in Costa Rica, and the inauguration of the Central American Bureau in Guatemala.

INTERNATIONAL CONFERENCES AND EXPOSITIONS.

In the development of an adequate mutual comprehension of the resources and ambitions of the nations of the Western Hemisphere no more effective agency has been discovered than the frequent assembling of representative men for the discussion and remedying of mutual needs. For this reason, the industrial expositions held and in near prospect in Brazil, Ecuador, and the United States have received all possible encouragement and support on the part of the Bureau, while abundant aid has been rendered in regard to the Scientific Congress of Pan America in Chile, and the work of the committees charged with carrying out the provisions of the Third Pan-American Conference of 1906 held in Rio de Janeiro and with the preparation of a programme for the Fourth Conference to take place in Buenos Aires during 1910. The personnel of the various national committees is guaranty for the enthusiastic discharge of the duties entailed.

THE COLUMBUS MEMORIAL LIBRARY.

As a medium of education concerning Latin America, the value of the Columbus Memorial Library, one of the greatest assets of the Bureau, can not be overestimated. Its collection of Americana comprises volumes and pamphlets to the number of 17,043, and the increase, by 614, of publications received in 1907–8, as compared with the previous year, is an indication of the effect of the letter of the Director written in December, 1907, calling attention to the resolution of the Third International American Conference, wherein the library was designated as a depositary for the official reports of the governments forming the union. The photographic collection of the



Over fifty papers made favorable comment on the necessity of increasing the trade of the United States with Latin America.

library numbers 3,500 views, and all information on the shelves has been classified, arranged, and catalogued in conformity with established rules.

HISTORY AND ADMINISTRATION OF THE BUREAU.

Since the inception of the Bureau in 1890 as an outcome of the First International American Conference, called through the initiative of James G. Blaine, then Secretary of State of the United States, the development and importance of the organization has been steadily enhanced by succeeding Conferences.

Its list of administrative officers has embraced men of distinction in public life, while its Governing Board comprises the diplomatic representatives of the twenty-one Republics of America.

INCOME AND EXPENDITURES.

Financial support is furnished by the governments included in the International Union of American Republics, each of which supplies a quota based on the respective population of the contributing countries. To meet the greater impulse given to the work of the Bureau by the Conference at Rio de Janeiro, the annual income of the institution has been increased from \$52,000 to \$78,000, an increase of 50 per cent over former estimates, having been unanimously recommended by the diplomatic representatives of Latin America. This recommendation was met by prompt action on the part of the Congress of the United States, which body has amply recognized the value of the work of the Bureau in serving as an international diplomatic exchange for the upbuilding of trade and the cementing of friendship.

This increased annual appropriation will be fully warranted by the expenditures entailed through the occupancy of the new building, the meeting of such current expenses as are justified by the efforts being made toward promoting the efficiency of the work undertaken, preparation for participation in the Fourth Pan-American Conference, and such legitimate costs as are brought about by the growth of the Bureau.

As is inevitable in a propaganda carried on mainly through literary channels, there must be a considerable outlay in printing, for which an annual allotment of \$20,000 is made by the Congress of the United States to cover the work done in the Government Printing Office. The expenditure of this sum on the Monthly Bulletin alone necessitates additional outlay for general printing from other funds, and it is hoped that the allotment may be increased to \$30,000.

The total receipts on the part of the Bureau for the year ended June 30, 1908, are stated as \$88,609.05, expenditures being \$58,932.20, leaving a balance of \$29,676.85, while for the fiscal year 1909–10 both

branches of administration are balanced at \$80,000 in the published estimate.

The reported balance is attributable largely to the payment by some of the governments of delinquent quotas, and this sum will be expended principally in the work of installing the Bureau in its new home.

In closing his report Director Barrett expresses his gratitude to the Chairman and members of the Governing Board for the support they have so ably rendered him in the discharge of his duties in connection with an institution which is international in character, and hence somewhat delicate and difficult of administration.



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RUBBER AND ITS : RELATIVES : :

UBBER is one of the great essentials of modern industrial life. With iron or steel, with copper, and with glass it may be compared in the diversity of its use; it has the advantage over these, and may be compared in this latter respect to corn, wheat, and the necessary foods, in that it is capable of eternal reproduction if mankind will but apply to its cultivation his experience and scientific knowledge.

There is scarcely a device of daily commerce into which rubber does not enter as a necessity, and yet in the annual statistical publication of the Department of Commerce and Labor-Commerce and Navigation of the United States—the student will look in vain for the word "rubber," and not until he examines the word or the phrase "indiarubber," "India rubber," or "India-rubber" will he be able to see how vast and important is the subject before him. servatism—if the term may be here applied—is traceable throughout all the literature of all the libraries of the English-speaking world. The aboriginal native word describing the substance first discovered by the early Europeans was cahuchu, probably pronounced but surely corrupted into caoutchouc. This latter word has spread into the languages of Europe. In French it is the same word; in German the only modification is to substitute a k for the c, and in Russian nearly the same change takes place. To be sure the Spanish uses frequently the word *qoma*, equivalent to our gum, and this is made more specific by adding the adjective elastica, and the Portuguese has the word borracha, but caucho is commercially well understood, as might be supposed from the first association with the source of supply. Rubber, or india rubber, however, is undoubtedly the term which will continue to be employed in English to distinguish this indispensable product of the Tropics.

Caoutchouc directly explains the descent of the gum and its adoption into the arts, but india rubber embraces not only this history but conceals one of the romances of the industries. Travelers—and it is said Columbus himself was one of them—noticed that the Indian inhabitants of America, thought then to be an unknown portion of the Indies, played ball with a curious substance grown in the primitive forests and prepared according to native ways. This substance was also made into shoes; it formed a protective coating for garments, and from it were made bottles which could be squeezed to-

gether so as to eject the liquid contents. This substance was called caucho in some parts of America and the gatherers were caucheros; in other parts the gatherers were called, because of the shape of their



A RUBBER TREE OF THE CASTILLOA SPECIES.

This tree, like its relatives, the fig, breadfruit, and the trumpet tree, has a general appearance and habit of growth which render it easy of recognition. The tree, with its rather smooth light-gray bark, has no striking peculiarities, but the slender, simple branches, with their large oval leaves, pendent in two rows, are similar to those of very few other trees. The Castilloa is native of Mexico and Central America, and thus far it has been supposed that its climatic and cultural requirements were quite different from those of the Para rubber tree, but it now appears that these differences have been greatly overestimated.

bottles and the uses to which the Portuguese saw them put, seringueiros, syringe men. From this origin the india prefix of the word

is derived. At first the gum, goma elastica, according to the Spanish, was merely a curiosity; it was imported into Europe and studied chemically with great interest; it was made into tubes and put to practical use in the laboratory. But in 1770 the English chemist Priestley recommended the use of the gum for effacing the marks of the lead pencil. It rubbed out these marks and was therefore a rubber. It became more widely known as experiment showed its value, and in 1823 Macintosh discovered the method of waterproof-



A RUBBER GATHERER IN TROPICAL MEXICO.

The "Ulero," or rubber gatherer, is provided with a sharp wedge-pointed ax for tapping the tree, and gourds for conveying the milk to be coagulated. He is generally assigned a given territory. A good collector will gather from 15 to 20 pounds of rubber per day.

ing garments, and added another word to the vocabulary. From this date india rubber was more and more an article of commerce; it served many purposes, but it also balked the inventors in many directions in which they had hoped it might be applied. Experiments were constantly being made; even the incorporation of sulphur had been tried, but it was not until 1839 that Nelson Goodyear, in the United States, hit upon a practical method of combining rubber with

sulphur so as to retain all its good, unique properties, while losing those that had made it hitherto unsuitable. This process was called vulcanization.

Rubber—india rubber—is a definite chemical combination of carbon and hydrogen, expressed by the (proportionate) formula C₅ H₈, or C₁₀H₁₆. It is a whitish solid, opaque, scarcely reacted upon by the ordinary solvents, but forming fluid or gelatinous masses with the ethers and the coal-tar oils. All this refers, of course, to the chemically pure rubber. It will also melt and burn. Physically, rubber will stretch, and when tension is released its mass returns to the original position and form. Unfortunately, however, rubber in the pure state has three awkward qualities: It loses this distensibility at cer-



RUBBER BOOTS—THE PRINCIPAL BUT BY NO MEANS THE ONLY SOURCE OF "RECLAIMED RUBBER."

NOTE.—Russia is not included in Europe, because it is attempted to show how great is the amount of rubber (from boots and shoes) reclaimed in Russia alone, as contrasted with the remaining portion of Europe. The cut illustrates the amount of old rubber shoes now held in various parts of the world, waiting to be turned into "reclaimed rubber."

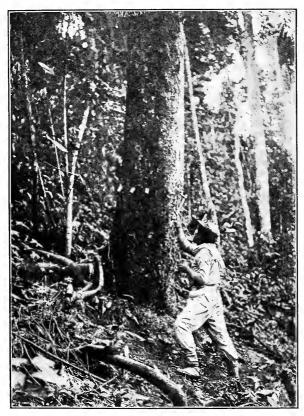
tain degrees of heat and cold, it softens under heat, and has a great tendency to stick to itself or to other masses of rubber with which it is brought in contact. Now, these three qualities of rubber as refined after entering the market from the tropical forests are overcome when it is mixed with sulphur—that is, vulcanized. It can then be molded into various shapes and still remain distensible. The degrees of temperature between which it retains these good qualities are very much wider apart, so that climatic changes are less felt by the manufactured product, and consequently rubber articles of an infinitely more varied type can be turned out from the factories. Vulcanized rubber is therefore the substance really implied ordinarily by the word alone.



COPY OF THE ORIGINAL ENGRAVING OF THE CASTILLOA ELASTICA, SOMEWHAT REDUCED.

The rubber trees of Mexico received a botanical description and name in a paper read by Cervantes before the Royal Botanic Garden Association of the City of Mexico in 1794, and was printed on an engraved plate, a copy of which is in the Library of Congress, Washington. The tree was named Castilla in honor of Castilla, a Spanish botanist, who died in 1793, while engaged in the preparation of a work on the flora of Mexico.

It might be thought that rubber would grow old after being once used in a manufactured article. So it does, but, almost like the metals, it has a new life when restored to its earlier condition. Reclaimed rubber does not sell for as high a price as fresh rubber just imported, but it has a substantial value, and no discarded bit of rubber goods seems too old or worn-out for reclamation and repeated use in the arts. Up to a short time ago old rubber shoes seemed to be the only



A RUBBER GATHERER IN BOLIVIA.

The tapping of the tree marks the beginning of the rubber gatherer's work. He attaches a small cup to the tree, and with a wedge-shaped ax makes a gash in the bark, being careful not to penetrate the wood. This operation is repeated at intervals of about a foot in a line around the tree, until 5 or 6 cups have been placed, into which the milk flows slowly. The next day a row of incisions is made just below the first, and so on until the ground is reached. A good tree will yield to a height of 20 feet or more. An expert gatherer can tap a hundred trees per day, provided they are close together.

or principal source of supply for reclaimed rubber, but to-day, thanks to modern ingenuity in devising chemical processes by which separation is accomplished, rubber is extracted from belts, from hose, or from the scrap of the trade, devulcanized as far as possible, and returned to the manufacturer for further use, although in this state it is never so generally serviceable as fresh rubber. The departments of government, the railway companies, and large users of rubber

make a business of selling discarded articles, and rubber gatherers of the stuff vie with the *caucheros* in supplying the market with the results of their labor.

To one whose attention has not been carefully directed to the matter the multiplicity of the uses and combinations of rubber will be astonishing. All know how common are rubber bands, lead-pencil eraser tips, stamps, and fountain pens on a writing desk; every minute we see a wheeled vehicle fly past, its peace-destroying noise of



COAGULATING RUBBER BY THE USE OF MOON VINE JUICE IN MEXICO.

The milk is emptied into this preparation, the impurities remaining in solution, and the clean rubber collecting in a solid mass, which can be lifted off the top.

yesterday obliterated by the rubber tire; but the use of rubber for these purposes, however enormous it is in the aggregate, by no means exhausts or even illustrates the demands for rubber in modern industry. The devices into which rubber enters can no more be enumerated than can those of iron or copper, but among them may be mentioned the various appliances for insulation in electricity; without rubber an entirely new method of telegraphing and telephoning would have to be invented. The air brake of the railroad must have rubber for its proper equipment; our fire service would be essentially crippled without rubber in the hose, and, in fact, hose of any kind can scarcely be conceived without rubber. Packing, belting, and tubing imply the use of rubber. Then there are boots. rubber heels, and overshoes; coats and gloves for clothing; the many pharmaceutical, dental, and surgical rubber goods, such as blankets, stoppers, combs, sheeting,

bandages, water bottles, and syringes. In domestic life there are carpets, mats, toys, and cushions; rubber paint and pavement have special advantages in selected places; roller skating would be a torment, and English tennis, Scotch golf, and American baseball would be decidedly tamer without rubber.

It is evident that there are two distinct phases to the study of this commercial commodity. The one is industrial, the other botanical.

Before crude rubber becomes the finished product, it must be treated both mechanically and chemically to make it pliant for its multiform purposes. These processes are complicated, but necessary in transforming the raw material into an article ready for manipulation into any of the shapes mentioned above. First the rubber must be washed and cut into bits, then it is squeezed between rollers in order to remove the water and to prepare it in sheets; then it is dried and made ready for compounding. Very few articles as employed to-

day are made of the pure gum; some compound is necessary in many cases; in others it is adopted in order to cheapen the price of the goods, which varies according to the quantity of compounded substance used. The consumer can, however, if he wishes to pay the cost, get the best possible article, the judgment of the manufacturer alone determining how much rubber to use.

Sulphur is the principal ingredient employed in compounding rubber, and serves two purposes; it reduces the amount of pure rubber engaged for any article—in itself a valuable item—and it is the most efficient vulcanizer known. It transforms pure rubber into two distinct commercial substances, according to the amount of sulphur used, but chiefly according to the intensity of heat applied to effect the combination, for in all probability a chemical change occurs here, in addition to the undoubted physical union of rubber with sulphur. The one substance is soft rubber in the protean elastic condi-



BASE OF TREE INJURED BY TAPPING.

Anxiety to obtain the largest yield of rubber, with slight regard for the protection of the trees and for future production, has resulted in the permanent injury of many young trees

tion familiar to all; this is produced by combining pure rubber with sulphur at a low temperature. The other substance is hard rubber, ebonite, or vulcanite, in which all elasticity is lost, and the shape into which this is molded is permanently and rigidly retained, within natural temperature limits. Nevertheless, compounded and vulcanized rubber will not last forever; it grows brittle and dull with age, the gritty scales on the surface of combs, etc., being the crystals of

unabsorbed sulphur coming to the surface, so that vulcanized rubber must finally be desulphurized and returned to the trade as reclaimed rubber.

Millions have dreamed of the possibilities and fortunes have been premised as the result of a process producing a rubber substitute. Artificial or synthetic rubber would seem so easy; take only ten atoms of carbon and combine them with only sixteen atoms of hydrogen and you have rubber. But the little trick of adding life to this inert molecule has not yet been learned. The fortune is still there for the lucky inventor who can accomplish it, because carbon and hydrogen





COAGULATING THE LATEX IN MEXICO.

1. Spreading the latex on Calathaea leaves. 2. Pressing the two coated leaves together to unite the sheets of rubber.

are cheap, inexhaustible even, while rubber may get costlier year by year. The discussion of artificial rubber may therefore be dismissed with a phrase—there is no such thing. Either the exploited article is a humbug, or it contains some proportion of real rubber mixed with substitute ingredients. Rubber substitutes are often of value in the trade because the article manufactured from them only needs that small proportion of rubber they contain.

The botanical aspects of rubber are, however, the more fascinating to the investigator, and touch very much more intimately the field in which the International Bureau of the American Republics is interested. The plant from which the product comes is peculiarly a part of tropical flora, and although there are rubber-producing plants outside of tropical forests, the bulk of the staple is derived from a narrow belt on both sides of the equator, and decidedly better adapted in Latin America to rubber growth than corresponding regions elsewhere.

Rubber is the cream from the juice, the milk, or the latex, of several varieties of tree or shrub. This latex is not the same as the sap, and it runs in different channels and performs different functions. As this latex flows from the cut in the tree, it has the appearance of milk and acts much in the same way. If left to itself, the latex separates into a lower fluid and a surface mass, like cream, which is india rubber. A latex possessing from 15 to 40 per cent of rubber (cream) is of value and will pay for working, but a proportion below this is poor and thin, and only in exceptional circumstances will it return any profit. Various ways have been developed or devised for obtaining this rubber from the latex, the process being intrinsically coagulation. The aboriginal method seems to have been, in Brazil, by smoking heat; elsewhere natural heat is applied, or mineral or chemical additions are made to the milk to separate the rubber. Recently the suggestion has been carried into practice of using the separator apparatus so efficient in the dairy industry. It can not be doubted but that the coagulation process adopted has a noticeable influence on the character and market price of crude rubber, although the kind of tree from which the latex flows, as well as the soil in which it grows, are substantial factors in the result. Having been, up to within recent times, largely a matter of native habit, left altogether in unscientific hands by the buyers of rubber, the coagulation showed remarkable differences, and in some instances has even impressed a name upon the product; nigger heads, bisquits, and scraps are among the terms applied, but the shape of the crude rubber usually indicates the place from which it is shipped. It will take years to uniformize the various native plans adopted for coagulation. Perhaps this will never be accomplished, but on plantations where careful study can be given to the matter it has been determined that heating by smoke produces the cleanest and purest rubber for commercial export.

Rubber is rubber, whether from a tree on the Amazon, in the uplands of Ceara, the mountains of Bolivia, the jungles of Nicaragua, the fastnesses of the Congo, the cultivated plantations of Ceylon, or the northern regions of Mexico; the important question is, however, whether the plant has an abundant yield of latex. Therefore the source of supply has been the subject of great study for the botanist ever since the first American discoverers saw the curious balls and bottles of the natives.

The classification of rubber-bearing trees carries the number well toward one hundred, and if many latex-producting shrubs and vines



TAPPING A RUBBER TREE IN CHIAPAS, MEXICO.

The object in rubber tapping is not merely to avoid the destruction of trees, but to secure the maximum quantity of gum with the least injury to future productiveness. The gatherer (ulero) makes, with his machete, diagonal lines or gashes which form channels in which the milk can flow until it is all brought to one side of the tree, whence it is let down to a cavity hollowed in the ground and lined with large tough leaves. These are dexterously lifted up, and the milk poured into a calabash or other vessel and carried away to be coagulated.

are included, the tale might be made threefold, but for practical purposes only four great species are recognized. The Euphorbiaceæ contain the *Hevea* and the *Manihot*; the Ulmaceæ, the *Castilloa* and the *Ficus*; the Apocynaceæ, the *Hancornia* and the *Landolphia*; the Asclepiadeæ, *Cynanchum*. The six important trees are those under the first three varieties.

Hevea is the rubber tree par excellence. It is indigenous to the region of the river Amazon, and is therefore found throughout that immense watershed in the tributary areas of Peru, Bolivia, Ecuador, Colombia, and Venezuela. Hevea is a large tree, of comparatively





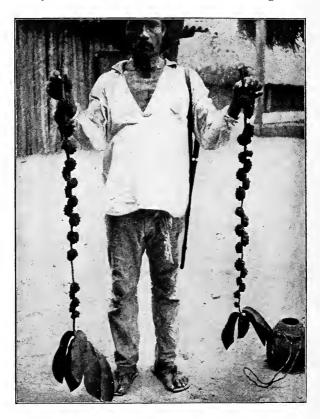
COAGULATING THE LATEX IN MEXICO.

3. Stripping the leaves from the rubber. 4. A finished sample of rubber, marked by the veins of the leaves.

slow growth, but on that account of long life. From the fourth year on it will yield its milk, and may be systematically tapped for twenty years or longer. It is often found 12 feet in circumference, and the scattered trees in the tropic jungle will constitute a forest by themselves. The Hevea requires a low-lying, rich, deep soil, with such abundant moisture as only the equatorial neighborhood can give. Hevea does not need to be overflowed; in fact, those trees that are subjected to periodic floods near the great rivers are not necessarily the best stock or the largest producers. Hevea also is well adapted to cultivation wherever the soil and climate are suitable, and the consensus of opinion is that in the ultimate future this tree, modified

perhaps by scientific horticulture, will be the chief rubber bearer of commerce. This is the tree that has made Brazilian rubber famous, and for generations to come Brazil is assured of a steady source of revenue from the supply furnished by this native of her fluvial forests.

The *Manihot* tree produces the Ceara rubber of commerce. Its native locality is a high, stony, arid, and in places semidesert country. Its latex yields a rubber remarkable for strength and tenacity,



BRANCHES OF CASTILLOA ELASTICA WITH RIPE FRUIT.

The fruit of the rubber tree has a faintly sweetish taste, but is without appreciable flavor. It contains considerable milk, though not in commercial quantities.

and promises to react successfully to cultivation if proper soil is selected for it, but as yet no efforts on a scale large enough for a thorough test have been attempted.

The Castilloa, next to the Hevea, is the best-known rubber producer in the tropic belt. Its native habitat is Central America and southern Mexico, and it is found in Ecuador, Colombia, and Peru, having been acclimatized also in the West Indies. The tree has at-



PLANTED CASTILLOA ELASTICA TREES, ABOUT 14 YEARS OLD.

This is a portion of a cultivated grove at La Zacualpa Plantation, Chiapas, Mexico. The scarred trunks show that they have been tapped many times. The trees average about a foot in diameter and stand about 12 feet apart in the rows. They were originally planted alternately with caeao, but this has mostly disappeared.

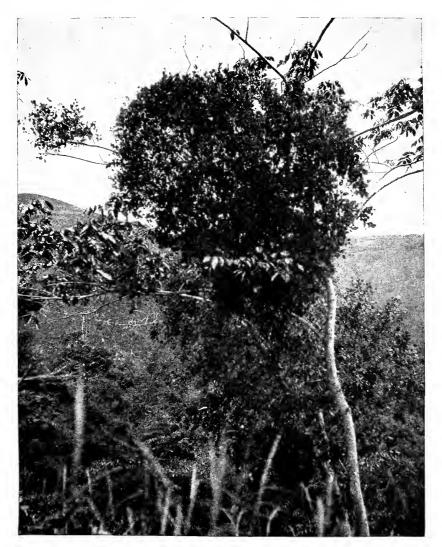
tracted considerable attention since the exploitation of rubber plantations in the zones north of the equator, and is very adaptable to cultivation if carefully treated. It is not so large as the Hevea, nor is the latex the same, needing therefore quite different treatment in its coagulation; but that is a matter of science and art, which will be regulated as its characteristics become better known. This is the rubber tree that has been so butchered to supply the growing demands of a consuming world. The natives, in their primitive zeal to extract the greatest possible amount of juice in the shortest possible time, simply felled—killed—the tree and bled it to the last drop. Whole forests have been laid waste in the unrestrained search for rubber, but nowadays the principle of conservation has become firmly rooted and the tree must be well treated wherever it is still alive, while cultivation is restoring it to areas originally favorable to its propagation. The Ficus, the rubber tree of urban conservatories, is of the same genus with the Castilloa, but its native habitat is the jungle of the eastern Tropics. In Assam, New Guinea, and the Malay Islands it is at home, but seems not to be of great profit when cultivated. It is likewise a tree of age, not coming to substantial vield until after many years of life, and therefore unpromising to the proprietors of a rubber plantation,

Hancornia is almost a shrub. It grows south of the Amazon Valley, and is found also in Venezuela and Peru; in fact, it is one of the best-known sources of Peruvian rubber. It has, however, one fatal defect when considered as a plant for future usefulness; in order to get the latex the tree must be cut down. Although more intimate acquaintance may determine that Hancornia can be cultivated, and, acknowledging that its rubber product ranks well up in the scale, it is probable that the area in which the tree now grows, if the culture be continued, will be planted with Herea or Castilloa,

according to the soil.

Landolphia (Lianas) is a rubber-yielding vine growing in the jungles of the Far East, of New Guinea, and especially of Africa in the basin of the Congo. Its product is commercially of decided value, but the fear that it may depress the native industry of Latin America or the cultivated plantations of Ceylon is groundless, because, however extensive may be the territory over which the vine is found, it must be destroyed in order to extract the latex; and cultivation is out of the question, since the vine requires the support of forest trees for its growth, and no plantation can first cultivate a sunless jungle before introducing a commercial staple. When the indigenous vine becomes exhausted the land on which it appeared must be diverted to other crops.

Considering the immense and increasing use of rubber in modern life, it is a fascinating problem to estimate how great may be the rubber-producing area of the world. It can be assumed that the genuine rubber tree will not repay the cost of cultivation outside of a

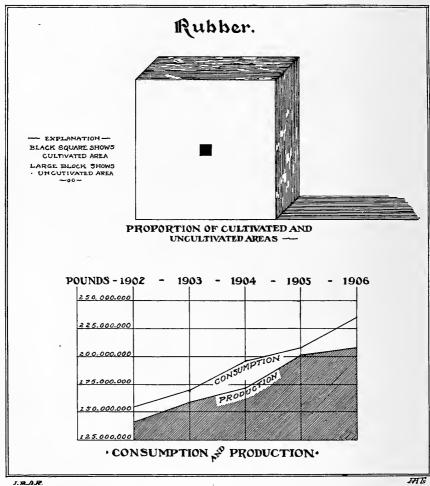


A RUBBER-PRODUCING MISTLETOE IN VENEZUELA.

Though not yielding a commercial rubber, this parasitical growth, like many leguminous plants and shrubs in tropical countries, produces a gummy exudation very similar to good rubber, but lacking the essential property of elasticity.

zone lying about 500 miles on either side of the equator. This includes all the Amazon basin in Brazil, the greater portion of Peru, the northern section of Bolivia, all of Ecuador, Colombia, Venezuela, Panama, Central America, and the southern section of Mexico. In

Africa it includes the Congo basin and the Sudan on the west, and the analogous portion on the east; in Asia the larger part of India, the northern tip of Australia, the intervening archipelagoes, and the Philippine Islands. No one can calculate with precision the productive extent of these regions, because the deciding factors of



Note.—Consumption and production are here taken as synonymous with imports and exports, because practically no producing country manufactures rubber, and no consuming country has rubber lands. It is impossible, likewise, to make imports and exports balance, and this explains the continued preponderance of consumption over production. As a matter of fact, this relationship, although actually maintained, is less than the diagram indicates, because a noticeable amount of reclaimed rubber is annually added to the new rubber just entering the market.

soil, rainfall, elevation, drainage, moisture, and temperature are not enough known; nevertheless, the area absolutely available is so well understood that any fear of a rubber famine, so far as nature's ability is concerned, is unfounded. Rubber cultivation has already extended over 150,000 acres in Ceylon; in the Federated Malay States are

130,000 acres; elsewhere in the East are at least 30,000 more; so that, even where it has been artificially introduced into an alien land, all told perhaps 600,000 acres, the tree itself is doing its duty in supplying the wants of mankind. In the western continent, Mexico and Central America are extending the cultivated territory for the plant, while experiments are making in other parts of the world. In Cuba and the Philippines there are extensive sections adapted, in all security, to the propagation of rubber. Cultivation, therefore, if con-



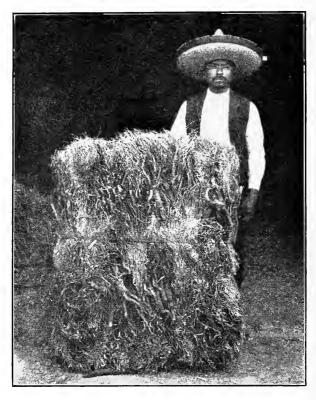
(Reproduced from India Rubber World.)

AN EXPANSE OF GUAYULE LAND.

The guayule shrub is found over large areas of the chaparrales, or bush prairies, in the northern part of the Mexican highlands. The first reports concerning this plant and its value are said to have been made by a Jesuit priest, about the middle of the eighteenth century. The name is probably derived from the Spanish word Hay (there is), and the Indian word Hale, meaning india-rubber.

ducted scientifically, can furnish the supply. It is not intended to ignore the future productive possibilities of the native forests. In Mexico and Central America the rubber zone is, from the configuration of the country, within reach; but in the Amazon Valley thousands of square miles are hidden beneath the virgin forest, and however inexhaustible the growth of the tree, the acquisition of the rubber, difficult at present, will become more and more so as time goes on. That this is the natural habitat of the *Hevea* can not be doubted, but

that it will continue to remain the principal source of supply has been questioned by students and observers ever since Ceylon made a successful plantation of this tree in 1877. The Brazilian and other governments are earnestly striving to conserve the rubber forests, to rectify earlier mistakes in the way of unrestrained robbery, and to encourage not only the entrance of more capital into the industry, but to bring into cultivation and make more accessible the area already exploited. Nevertheless, it is not beyond possibility that in this in-



(Reproduced from India Rubber World.)

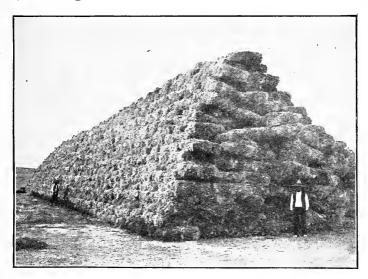
A BALE OF GUAYULE SHRUB.

Within the few years since the exploitation of the guayule plant began, Mexico has arisen to second place among the rubber-producing countries of the world. The United States takes 80 per cent of the annual production.

stance the same result may happen as did happen with cinchona. This is still known to the pharmacopæia as Peruvian bark, but the industry has moved thousands of miles away from its native birth-place, and the supply of quinine, as far as the commercial market is concerned, now comes from India.

Be all this as it may, Brazil—Manaos, Pará, Ceara—continues to dominate the india-rubber world. Assuming the world's last an-

nual crop to be 150,000,000 pounds, her exports in 1907 were over 80,000,000 pounds. Add to this the Peruvian and Bolivian crops coming down the Amazon, and considering that fine Pará sets the price, it will be seen that many years must pass before the predominance can be overcome. This product was sent to the United States, Great Britain, France, Germany, Uruguay, Belgium, and Argentina, in this order. It is easy to understand that Belgium ranks low in importation from Brazil, because the output from the Congo has its chief entrepôt in Antwerp. The markets for the world's crop may be arranged as follows: The United States, Great Britain, Germany, France, and Belgium.



(Reproduced from India Rubber World.)

FOUR HUNDRED TONS OF GUAYULE RUBBER.

These bales vary in weight from 70 to 140 pounds. During the calendar year 1907 guayule rubber exports from Mexico reached a total of 11,900,000 pounds, and for the first six months of 1908 nearly 7,000,000 pounds.

Guayule is a shrub containing rubber in its branches, but this rubber is pure rubber and can be used for every purpose to which the latex of the *Hevea* is applied. Guayule therefore contradicts the statement made that no rubber could be produced outside the tropic zone. Guayule is a native of Mexico, but its habitat stretches also well into Texas. The shrub must be destroyed before the juice is extracted, and coagulation must be conducted by a different method, but in the end the outcome is rubber. The business of gathering the plant has become quite successful, and it is probable that efforts to cultivate it will turn out likewise. Gutta percha is not rubber; it was at first confused with the latter, although it had no

suppleness or elasticity, and its source of origin is a tree related to the india-rubber genus, but physically it has different properties, and in the arts it has different uses. About all the gutta percha of commerce comes from the Far East. Balata is an American gutta percha, growing in many parts of the Tropics, but produced chiefly in Venezuela and the Guianas. A practical distinction between rubber and gutta is found in the (Latin) names, gummicum elasticum for rubber and qummicum plasticum for gutta. This substance has two important uses; one is for insulation in telegraph instruments, but particularly for covering to submarine cables, which it protects better than any known substance against the water or the animal attacks beneath the surface; the second is for forming molds of various kinds by surgeons and dentists. It plays also a part in the manufacture of golf balls. At least 1,000 tons a year of gutta percha have been used since 1858 in submarine cables, the length of which has reached over 200,000 miles.



RUBBER GATHERER'S HOME ON THE UPPER AMAZON RIVER.

NATIONAL ECUADO-RIAN EXPOSITION

HERE will be inaugurated at Quito, the capital of Ecuador, on August 10, 1909, an exposition to commemorate the first centennial anniversary of the political emancipation of Ecuador, to demonstrate the advancement of Ecuador as a free nation, and to show its immense resources and great variety of products.

The United States Government is to take part in this Exposition, and has appointed Hon. W. W. Russell, lately Minister to Venezuela, as its Commissioner to the Exposition, with diplomatic rank of Envoy Extraordinary and Minister Plenipotentiary.

The United States Government will erect a national building at Quito for its exhibit, and the preparation of this Government exhibit is in charge of a departmental board that has been appointed to represent each Department of the Government. The personnel of this board is as follows:

State Department: Hon. Huntington Wilson, Third Assistant Secretary of State, Chairman.

Treasury Department: Mr. Walter W. Ludlow, Chief Clerk.

War Department: Mr. John C. Schofield, Assistant and Chief Clerk.

Department of Justice: Mr. O. J. FIELD, Chief Clerk.

Post-Office Department: Mr. Charles A. Conrad, Chief Clerk.

Navy Department: Mr. F. S. Curtis, Chief Clerk. Interior Department: Mr. James C. Boykin.

Department of Agriculture: Col. S. R. Burch, Chief Clerk.

Department of Commerce and Labor: Mr. Frank H. Bowen, Chief Clerk.

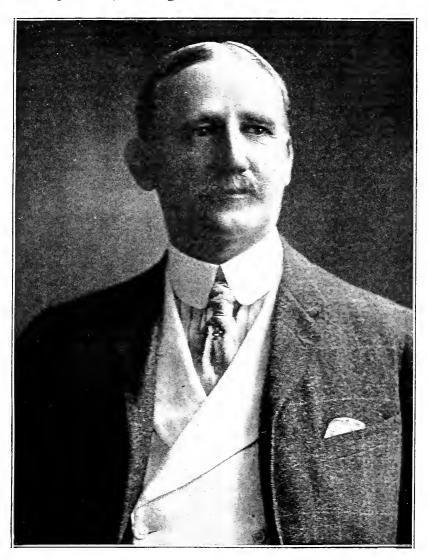
The Ecuadorian Government has set aside space and buildings for other exhibits from the United States, and a practicable and instructive display of products and manufactures of the United States at this Exposition will greatly aid trade relations with all the countries on the west coast of South America. Such an exhibit should include: All kinds of mining machinery; agricultural implements and machines; railroad equipments; machinery for the manufacture of boots and shoes; all kinds of artisans' tools and implements; and food products.



THE CITY OF QUITO, CAPITAL OF ECUADOR.

Quito contained a population of 51,000 people in 1906. It is situated in the heart of the Andes, surrounded by mountains whose summits reach an altitude of 16,000 test above sea level. The principal government buildings, bishop's plates, and enthedral front on the main plaza, and distributed over the city are many beautiful churches, a theater, and ten public institutions of learning. Quito is lighted by electricity, and has an electric street-railway system, in course of construction. The recently inaugurated Guayaquil-Quito railroad has brought the capital within easy communication with the coast. Quito is easily reached by way of the Isthmus of Panama, and steamers from Panama to Guayaquil, the coast metropolis of Ecuador; from thence by a modern railway line to Quito.

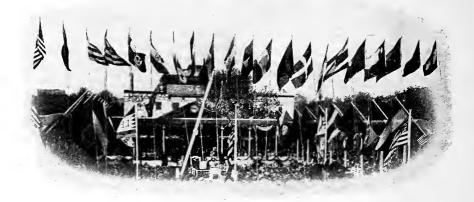
All inquiries in regard to the Quito Exposition should be addressed to Mr. W. W. Russell, United States Commissioner, in care of the State Department, Washington.



HON. WILLIAM W. RUSSELL,

Commissioner of the United States to the National Exposition of Equador.

Photograph by Harris & Ewing.



THE FLAGS AND COATS OF ARMS OF THE AMERICAN REPUBLICS :: :: :: :: ::

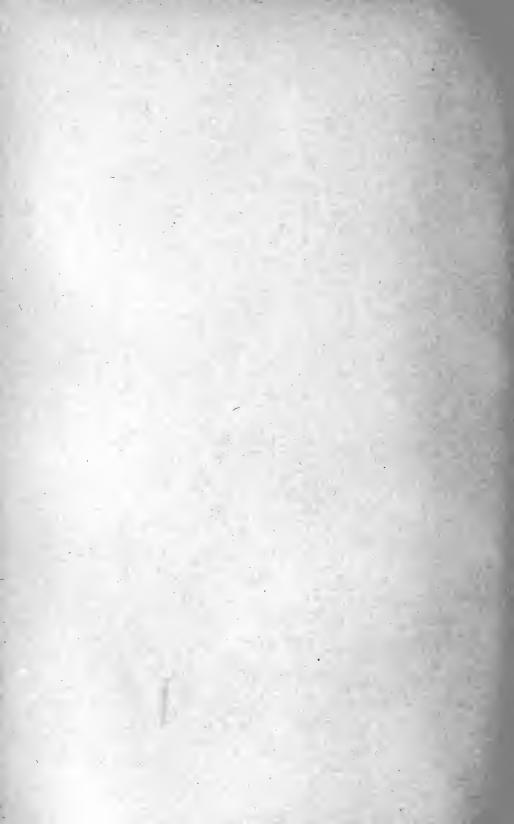
BRAZIL.

HE Brazilian banner typifies the history of a remarkable nation whose civilization dates back to April 21,1500, when the daring Portuguese navigator, Pedro Alvarez Cabral discovered that portion of the Brazilian coast now called "Espiritu Santo." As a colony, Brazil was under the flag of Portugal for three hundred and twenty-two years, or until 1822, when she effected a peaceful separation from the mother country and became a constitutional empire. As an independent nation, she continued under that form of government until the 15th of November, 1889, when, as the result of a bloodless revolution, the Emperor Dom Pedro II was compelled to abdicate the throne, and Brazil became a republic under the official designation of "The United States of Brazil."

The new Brazilian flag, temporarily adopted by the people on the declaration of the Republic, displayed three diagonal stripes, the two marginal ones being of red, and the middle one white, with a blue star in the center. It was felt, however, that the national banner to be permanently adopted should represent the traditions and historical continuity of Brazil. With this end in view, the Provisional Republican Government, under Marshal Da Fonseca, published a decree, dated November 19, 1889, which prescribed the present flag of Brazil.



BRAZIL



Its details, with the symbols preserved from the old flags of Portugal and the Empire, may be described as follows:

The present flag of Brazil retains the traditional arrangement, bequeathed by the extinct Empire, of a green rectangle (twice as long as it is wide), with a rhombus or diamond-shaped figure inscribed therein, and yellow in color. The green represents the vegetable kingdom, and the yellow the mineral. During the sixty-seven years, from 1822 until 1889, that Brazil remained an Empire, there was set in the center of the yellow rhombus-shaped figure the imperial coat of arms, which consisted of an armillary sphere of gold in a green field, traversed by a cross and encircled by a blue band set with 19 stars of silver, the shield being surmounted by a royal crown of diamonds, and the sides encircled by two branches of the coffee and to-bacco plants as emblems of the country's commercial wealth, represented in their natural colors, and their stems tied together by the national colors (green and yellow). The armillary sphere was a reminder that Brazil had been discovered in 1500 by one of Portugal's daring navigators, who made use of this nautical instrument, which consists of several brass rings, all circles of the same sphere, designed to represent the position belonging to the important circles of the celestial sphere. The 19 stars represented the then 19 provinces of Brazil, while the blue of the band in which they were set was borrowed from the standard of Portugal.

After Brazil had become a Republic, the crown was suppressed, but it was desired that the new republican emblem should remind the Brazilians of their traditional and historical past, while, at the same time, it should reveal the new national aspirations. It was to satisfy this double need that the idealized representation of the heavens at the capital of Brazil when the constellation of the Southern Cross is at the meridian, was adopted, with the legend "Ordem e Progreso" ("Order and Progress") stamped in the course of the terrestrial orbit. The new banner preserves the essential design of the old flag. In the blue and white of the sphere it naturally recalls the colonial phase of Brazil and at the same time the sphere symbolizes the monarchical period of Brazil, as it brings to memory the armillary sphere. The constellation of the Southern Cross symbolizes the glorious faith of the ancestors and the discovery of Brazil. The 5 stars of the Southern Cross, and 16 other stars, or 21 in all, arranged in the lower portion of the new blue sphere, according to their astronomical importance, represent the 20 States of the Brazilian Federal Union, and the neutral city of Rio de Janeiro. Thus, the idea of representing civic independence and cooperation by a group of stars has been preserved in the present republican flag. The branches of coffee and tobacco were suppressed, as the green and yellow of the flag were considered sufficient to represent the industrial aspect of Brazil. In brief, the

standard of the Brazilian Republic symbolizes the past, present, and future of Brazil. The green field which dominates everything not only represents the verdure of the land, but is also emblematic of Hope and Peace.

The national coat of arms of the Republic of the United States of Brazil is very interesting and unique. The large five-pointed star denotes the unity and territorial integrity of Brazil. Each section of this five-pointed star is bisected in such a manner that one of the halves is green and the other yellow; symbolizing, respectively, the vegetable and mineral wealth of Brazil. The blue circular band inscribed within the star and containing 21 small stars of silver is a reminder of the 20 States of the Brazilian Union and the neutral city of Rio de Janeiro. The blue of the band betokens the deep, brilliant skies of Brazil, and recalls her former historical and political connection with the original mother country, Portugal. The five large stars in the very center of the coat of arms represent the constellation of the Southern Cross, and may also be said to typify the coffee zone of Central Brazil, consisting of the five States of São Paulo, Rio de Janeiro, Espiritu Santo, Bahia, and Minas Geraes. The entire shield is upheld by a vertical sword, in the center of whose hilt, on a red field, is set a star. The shield is encircled by two branches of the coffee and tobacco plants as emblems of the country's commercial wealth, represented in their natural colors and tied together with a blue ribbon, bordered with gold, with the following legends: In the center, "ESTADOS UNIDOS DO BRAZIL;" on the left, "15 DE NOVEM-BRE," and on the right, "DE 1889;" the whole signifying in English: "UNITED STATES OF BRAZIL, 15TH OF NOVEMBER, 1889;" that is, the memorable date when the Brazilian people adopted a republican form of government. The straight golden rays, radiating in all directions, outward and unward, beyond the shield, denote the rising of the sun: that is, the glorious future and destiny of Brazil.



NATIONAL HOLIDAYS OF THE AMERICAN REPUBLICS

BRAZIL.

HE chief national holiday of Brazil, which is annually celebrated with great enthusiasm throughout that extensive Republic, is the 7th of September. It was on this date, in the year 1822, that Brazil, after having been for three hundred and twenty-two years a colony of Portugal, severed her political connection with the mother country by means of a revolution which was almost bloodless. The circumstances leading up to this event, one of the most unique and interesting in history, are as follows:

It was in 1807 that the great French Emperor Napoleon I, who was aiming to become the master of the whole of Europe, determined to attach Spain and Portugal to his vast imperial domain. His veteran and splendidly equipped armies easily overran the Spanish Peninsula, and, in November, were fast advancing upon Lisbon, the capital of Portugal. The king of that country, Dom John VI, suddenly found himself in the most embarrassing situation of being obliged either to ally himself with Napoleon against Great Britain, in which event the entire Portuguese fleet would be seized by a British squadron, under Sir Sidney Smith, then rigorously blockading the mouth of the Tagus, or else he must consent to the proposal of the British admiral to transport himself and the entire Portuguese royal court to Brazil. Dom John chose the latter alternative, and, on the 29th of November, accompanied by a large retinue of nobles and officers, he went on board the flagship of the Portuguese navy, and, escorted out of the harbor of the Tagus by the British fleet, set sail for South America. On the very day of his departure the French Marshal Junor was thundering upon the heights of Lisbon, and next morning took possession of the city. The news of these surprising events reached Brazil in January, 1808.

The Brazilians, excited by this change in their destinies, which suddenly converted their native country into the center of the Portuguese monarchy, made elaborate preparations to welcome their sovereign, who, after a rather tempestuous voyage of three months, made a safe entry into the harbor of Rio de Janeiro on the 7th of March, 1808. The public festivities and rejoicing in honor

of his arrival continued for nine successive days, and in the evenings the capital of Brazil was brilliantly illuminated. Dom John VI thus began his reign in the New World, under auspicious circumstances, and he wisely inaugurated many beneficial reforms; such, for example, as opening the ports of Brazil to the commerce of the world. The country began to prosper under his régime and tranquillity prevailed for several years. Symptoms of discontent and friction were, however, soon to become manifest. The interests of the native Brazilians were antagonistic to those of the numerous Portuguese courtiers and immigrants who had accompanied the King to South America. Matters reached a crisis when news of the liberal, constitutional revolution of 1821 in Portugal became known in Brazil. The Brazilians demanded that the new constitution adopted in the mother country should be extended to them. The King found that his position was fast becoming untenable in Brazil, and hence, with the purpose of safeguarding his interests in Portugal, he appointed his son, Dom Pedro, Regent of the Brazilian Kingdom. The disheartened monarch embarked for Europe on board a line-of-battle ship on the 24th of April, 1821, and, as the vessel sailed away and the beautiful harbor of Rio de Janeiro disappeared forever from his view, he had gloomy forebodings that Brazil, the fairest gem of the Portuguese monarchy, would ere long sever her political connection with the mother country.

Dom Pedro, the new ruler of Brazil, was in his twenty-third year, possessed engaging and winning manners, and enjoyed many elements of popularity. He had left Portugal when a mere lad, and it was believed that his highest aspirations were associated with the land of his adoption. He was soon to find himself in many political and financial difficulties. To make matters worse, the Cortes or Parliament of Portugal passed a decree ordering him to return to Europe and abolishing the royal tribunals at Rio. These measures were received with the utmost indignation by the Brazilians, and strong pressure was brought upon him to assume the title of Emperor and to declare for the independence of Brazil. He refused at first to yield to this pressure, but, as he was on a journey to the province of São Paulo, he received, on the 7th of September, 1822, dispatches from the mother country of such a drastic and arbitrary nature that they caused him to declare immediately for independence.

He took this momentous step as he was surrounded by his courtiers, on the beautiful rural campinas in sight of São Paulo City. He was standing on the bank of an insignificant stream, the Ypiranga, when he made the exclamation, "Independence or death!" (Independencia ou morte!), which became the watchword of the Brazilian Revo-

lution.

His decision was received by the Brazilians with the greatest enthusiasm. The Portuguese military and garrisons in Rio and other cities of Brazil were easily expelled and transported back to Europe. The final step toward absolute independence was taken when, on the 12th of October, Dom Pedro I was proclaimed the constitutional Emperor and perpetual defender of Brazil. This ceremony was performed in the Campo de Santa Anna, Rio de Janeiro, in the presence of the municipal authorities, the functionaries of the court, the troops, and an immense concourse of people.

The independence of Brazil, which was effected almost without bloodshed, was not seriously contested by Portugal, who, three years later, in 1825, accepted the advice of Great Britain and formally recognized her late dependency as a free and sovereign nation.

Thus, Brazil dates her independence from the 7th of September, 1822, and celebrates the anniversary of that date as her principal national holiday.

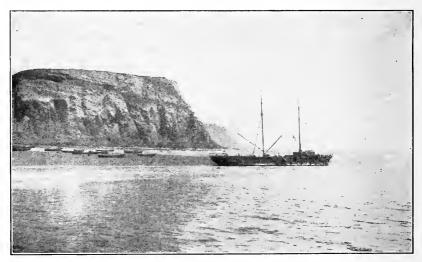
THE BIRTH OF REPUBLICAN INSTITUTIONS IN BRAZIL.

The 15th of November is annually celebrated as a national holiday in Brazil, because on that date, in 1889, this great South American country changed its form of government from a constitutional empire to a republic. Brazil, as an independent nation, had, for sixty-seven years, been under monarchial institutions, and had made a notable record of achievements under the two emperors Dom Pedro I and his son Dom Pedro II; under the reign of the latter negro slavery being finally abolished in 1888. The trend of events in the New World rendered it inevitable that Brazil should follow the example of her sister Latin American neighbors and become eventually a republic. This momentous event was accomplished by a bloodless revolution on the 15th of November, 1889, when the Brazilian army and navy and the "Associated Republican Leagues" all united under the leadership of Marshal Deodora da Fonseca in compelling Dom Pedro II to abdicate and embark within twenty-four hours for The deposed Emperor patriotically bowed to the will of the people of Brazil.

Marshal Da Fonseca and a cabinet of ministers acted as the provisional republican government until a new Constituent Congress of Brazil could be elected and convoked. This Congress assembled in Rio de Janeiro on the 15th of November, 1890, the first anniversary of the successful inauguration of republican institutions in Brazil.

THE ARICA-LA PAZ RAIL-WAY AS PROPOSED BY THE CHILEAN GOVERNMENT

HE unique geographical isolation of Chile, shut in between the Pacific and the Andes, a desert to the north and the stormy Antarctic to the south, might naturally lead one to expect retarded growth and commercial isolation. The fact is, however, that Chile has been from the earliest colonial times one of the most progressive of the South American countries, and a leader in the development of internal and external lines of communication.



EL MORRO, ARICA, CHILE.

Arica is the seaport of Tacna, the capital of the northernmost province of Chile, and has a population of about 3,000 inhabitants. It lies on a plain, bounded on the southwest by hills of moderate elevation, the highest being El Morro, a fortified promontory 855 feet above sea level, which afford; protection from storms to the shipping of the harbor. The city is of much importance commercially, and coasting steamers maintain regular communication between Arica and the ports of Valparaiso and Panama. Arica is connected by railroad with Tacna, a distance of 39 miles.

To a large extent this enterprise is due to the character of the population developed under circumstances of hardship, which in Chile as elsewhere has always tended to the formation of sturdy manhood.

To the early Spanish adventurers the country was a disappointment. There were no such great stores of treasure to be conquered from the natives as in Peru, and the natives themselves were of an 1020

entirely different race. Instead of the trusting and easily conquered Inca tribes of the north, Almagro and Valdivia had to meet the warlike and hardy Promaucaes and Araucanians of the south, the latter the most able and warlike native race on the American continent. The history of European civilization in Chile in colonial times, and afterwards far down into the nineteenth century, is a history of struggle against nature and savage man. In such a school those hardy elements of character and enterprise were developed which distinguish the Chileans of to-day. The establishment of steamship lines, the development of coastwise and exterior commerce, the building of railroads and highways has always been one of the most marked characteristics of Chilean enterprise which seeks to make of Chile a great international carrier and handler of the products of other countries. It is the ambition of Chileans that their country may become the England of South America in the carrying of oceanborne freights and passengers and its Netherlands in the handling of the land-borne trade of the interior countries.

To accomplish this latter purpose it is necessary to drive its rail-roads through or over the great mountain chain which shuts off the country from the Argentine Republic and Bolivia. The already existing Antofagasta and Bolivia Railway was the first step in this direction. The second was the completing of a connection with the Argentine system through the great spiral tunnel under the Uspallata Pass. This great work which will now be finished in a few months completes the first trans-continental railway line in South America from the Atlantic to the Pacific. The third step will be another crossing of the Andes at one of the low passes above Copiapó to connect with the Argentine lines from Tucuman and with the Bolivian system. Surveys have been authorized and work has been begun on this project. The fourth is the Arica-La Paz line to strike into the heart of Bolivia at its capital.

This great enterprise, the railway from La Paz to the sea, has been the cherished object of both countries for a number of years.

The Bolivian programme for railway expansion provides for a system having three outlets. One to the Amazon waterways by the Madeira River, another to the south connecting with the Argentine system, and the third to the Pacific by completing the connections to Antofagasta and by building another railway directly from La Paz, the capital, on a shorter line to the ocean. The Chilean proposal for the carrying into effect this last proposition is that the line shall be built from Arica, as outlined in the plans and estimates submitted by engineer Josiah Harding to the Chilean Government.

From time to time in the past several routes for a railway from Tacna to La Paz have been studied with more or less thoroughness.

It was considered an essential condition that the railway should start from Tacna and be a continuation of the railway already in operation from Arica, the port on the coast.

The first preliminary report submitted by Mr. Harding suggested that a more direct route from Arica and to the south of Tacha by way of the Lluta Valley, seemed to offer more favorable conditions for a railway to La Paz than did the route by way of Tacha. Mr. Harding gave his opinion that a survey of the valley of this river should be made before any conclusion be reached. He reported upon the plans of Messrs. Manby, Handley, Guido, Vigneau and others for the proposed Tacha-La Paz line as all impracticable for one reason or another. The estimates he found to be all too low.

The suggestion of Mr. Harding was adopted by the Chilean Government, and he was directed in July, 1904, to make a survey of the Lluta Valley. The survey was made and his report, now made public by the Chilean Government, submits plans for the building of a railway to cost, as estimated, £2,354,395.

The difficulties to be overcome by the surveying party were very great. For long distances it was necessary to blast a way with dynamite before the first man could pass.

The route selected follows the valley of the Lluta from Arica to the Inn of Ancara, 104 miles. This point marks the summit of the proposed line at the highest elevation in the passage of the Andes and is also the crossing point for the proposed Tacna line. From Ancara the line continues down to La Paz, 188 miles.

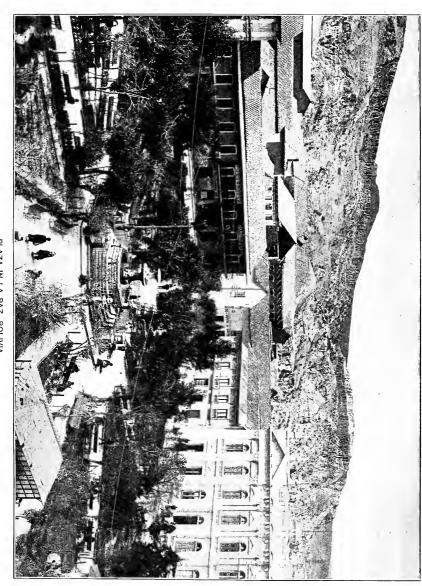
The average grade of the Arica to Ancara section of the line is 4.875 per cent. At points where a series of cascades from 10 to 15 feet in height are followed there are grades for some hundreds of yards of from 15 to 20 per cent. At these points where the narrowness and depth of the ravine make it impracticable to develop the line out in order to reduce the gradient, the only thing that can be done is to equalize the sections, rising for this purpose to a certain height above the bottom of the ravine.

By establishing a maximum gradient of 6 per cent the greatest height of the line above the river would not exceed 160 feet. The rack rail will of course be used. The minimum curve is 460 feet radius and there are a number of curves of about 500 feet radius.

In this section of the road there will be 48 bridges and one viaduct. Most of the bridges will be stone arches of 15 to 25 feet span, and some with steel beams 65 to 100 feet.

One of the bridges which requires special consideration will be about 150 feet span and the same height above the river.

Bridges of a single span are chosen in view of the torrential character of the river at periods and of the large number of stones then carried down by the waters.



PLAZA IN LA PAZ, BOLIVIA.

I.a Paz has a population of about 70,000 people, and is at a higher elevation than any capital city of the Western Hemisphere. It is the seat of government and contains all the public buildings with the exception of the supreme court and the archibishop's palace, which are located at Sucre, the former capital. While there are many buildings four and five stories high, the average structure is but two. La Paz is the inland terminal of the proposed railroad from Arica, Chile, for which bids have recently been asked. From the most ancient times this city has been famous as the center of a rich gold-producing region, as is signified by its former name, Chuquiapu, meaning "the place of gold."

There will be about 70 tunnels with a total length of nearly 5,000 yards. The longest tunnel is about 175 yards. Nearly all the tunnels are through granite or metamorphic rock and will require no lining.

The altitude at Ancara is 13,570 feet. From here to La Paz is a down grade of something over 1,000 feet in 188 miles. This part of the road offers no difficulties. The whole length of the road is 292 miles and it is expected to cover the distance with passenger trains in fourteen and one-half hours.

There will be six locations of the rack rail, beginning at a point 50 miles above Arica and ending at a point 71 miles above. In this section where the steepest gradients occur, the total length of the rack rail will be about 19 miles.

The water in the Lluta River taken at a point about 60 miles above its mouth after three years' drouth and in the dry season of the year showed 4 cubic meters per second. It is proposed to take the water for an electric hydraulic plant from the river near this point and convey it by pipe line to a point about 1,000 yards below, within which distance there is a vertical drop of over 250 feet. This it is claimed would furnish sufficient power to run the trains from Arica to Umapalca, nearly 100 miles and within 7 miles of Ancara, the summit. In addition it would operate the yards and wharves in Arica, light the city, and supply power which might be needed there for many years.

The bases on which bidders for the construction of the railway are asked to compete are:

(1) That the railway shall start simultaneously from Arica and Viacha (near La Paz) unless some serious difficulty prevents.

(2) The line being divided into five sections bids must indicate the price of each section.

(3) Materials of every kind, machinery and tools necessary for construction of the railway are exempt from import duties and all government and city taxes.

(4) Bidders must give the names of the capitalists upon whom they depend.

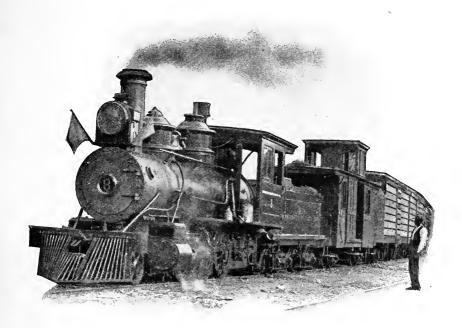
(5) Payments for work will be made every two months by means of warrants. Ten per cent is held back from each warrant as a guaranty.

(6) Location of the railway from Arica to Ancara will follow the plans of Engineer Josiah Harding. From this point on bidders specify the location.

(7) Contractors shall follow the rules of the best building practice.

(8) The governments of Chile and Bolivia will denote any government lands necessary for the construction of the line and the use of waters not owned privately or in which private parties have rights.

- (9) These governments will facilitate in accordance with law condemnation proceedings necessary of private or municipal lands.
- (10) Cost of expropriations of land, etc., required for construction of railway will be on account of the contractor.
- (11) The several sections into which the line is divided shall be finished in the times indicated by the bidders, the total of which shall not exceed three years.
 - (12) Acceptance of the work will be by entirely finished sections.
- (13) Tenders must be accompanied by a certificate of deposit for £50,000 to the order of the Government of Chile.



NORTH AMERICAN CAPTAINS OF INDUSTRY IN LATIN AMERICA

WILLIAM H. ASPINWALL.

HE most striking achievement of the eminent New York merchant Mr. William H. Aspinwall was the prominent and influential part which he played in the construction and completion of the Panama railroad and the inauguration, in connection therewith, of rapid steamship lines between New York and San Francisco. These enterprises were of transcendent impor-



WILLIAM H. ASPINWALL.

(Reproduced from Harper's Monthly Magazine for January, $1859.)\,$

tance during the twenty years elapsing between the discovery of gold in California and the final successful establishment of swift railroad transit, overland, across the United States, between the Atlantic and Pacific coasts of the American continent.

In 1847 and 1848, at the close of the war between Mexico and the United States, the commerce of both North America and South America, as well as the West Indies, was carried on very extensively in slow-going sailing vessels, round Cape Horn, through the Strait

of Magellan. For those whose business required them to travel between New York and San Francisco there was no alternative between the tedious route overland, by stage, caravan, horseback, or afoot, 3,000 miles, or, the long water passage of 12,000 miles round Cape Horn, from the Atlantic to the Pacific, and vice versa. Such were commercial conditions in the New World, disadvantageous alike to Latin as

well as English-speaking America, when Mr. Aspinwall and his associates undertook to effect a peaceful revolution in the methods of international transit and transportation.

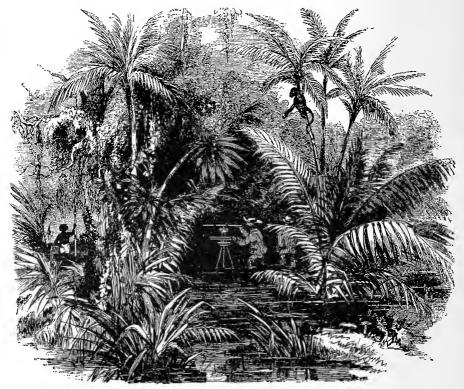
WILLIAM H. ASPINWALL, whose career was to become, like that of his illustrious compatriot and contemporary William Wheelwright. closely identified with the onward commercial and industrial development of Latin America, was born in New York City on the 16th of December, 1807. He came, on his father's side, from a long line of energetic ancestors, some of whom, even before the North American Revolution, had gained distinction as merchants and sea captains. He received a practical education and at an early age entered the firm of his uncles, GARDNER and SAMUEL HOWLAND, as a clerk. He quickly revealed business ability, and in 1832, at the age of 25, was admitted into the firm as a partner, and was given 20 per cent of the commercial account of the house, which that year amounted to \$60,000. Five years later, this firm changed its name to Howland & ASPINWALL. The business of the establishment was regarded in those days as immense. In their Pacific branch they had the largest general business of any firm in New York. Their operations with the East and West Indies, on the Mediterranean and in England were very extensive. They owned at least seventeen or eighteen ships, including several Liverpool packets.

In 1850 Mr. Aspinwall severed his connection with this firm in order to devote his entire attention toward cooperating in the founding of the Panama Railroad and the Pacific Mail Steamship Company. His business associates were astonished that a man of such sound sense should now embark in enterprises which were generally regarded as visionary and highly unprofitable. A brief review of the circumstances under which each of these great undertakings was begun is necessary in order to understand his reasons for identifying himself with them.

The building of the Panama Railroad is one of the most dramatic events of modern times. It was an undertaking that taxed the energy, ingenuity, patience, resourcefulness, and capital of a large number of North American business men, financiers, and engineers. Although the shortest distance across the Isthmus of Panama, between the Atlantic and Pacific oceans, is less than 50 miles in a straight line, and no very difficult gradients nor elevations were to be encountered, nor had any very deep cuttings to be made, there were other obstacles of nature to be vanquished that might well appall the bravest and most indomitable spirits. The route to be traversed lay largely through tropical jungles and swamps infested with reptiles and insects, and the climate was, moreover, most unhealthful, especially during the rainy season. From the moment when operations from the Atlantic side, where the city of Colon now stands, were

begun, in 1849, until the final successful completion of the isthmian railroad, six long, weary years intervened.

The six North American financiers who furnished the capital for pushing forward the construction of the Panama Railroad were William H. Aspinwall, John L. Stephens, Henry Chauncey, George Law, Alexander J. Center, and David Hoadley. The chief engineers were George M. Totten, John C. Trautwine, James L. Baldwin, J. C. Campbell, and Col. C. W. Hughes, of the United



RUNNING THE LINES ON THE SURVEY OF THE PANAMA RAILROAD.

(Reproduced from Harper's Monthly Magazine for January, 1859).

This survey was commenced in May, 1850, from Manzanilla Island, which was cut off from the mainland by a narrow swamp, covered with a dense growth of mangrove, and interlaced with huge vines and thorny shrubs. The air was laden with pestilential vapors, and swarmed with sand flies and mosquitoes, and only by the use of gauze veils protecting the face could the men work, even at midday.

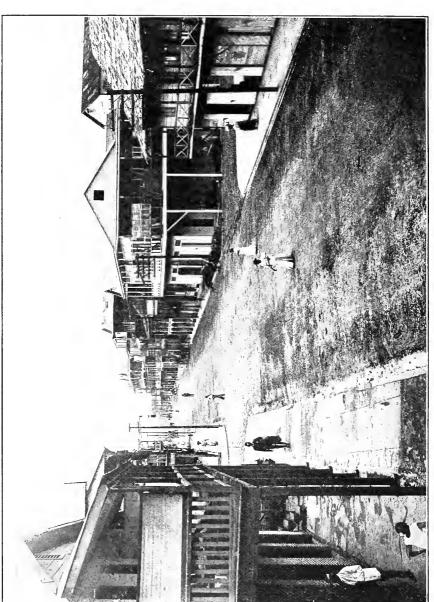
States Topographical Survey. To enumerate in detail the eminent services rendered by these distinguished capitalists and engineers is beyond the scope of this biographical account.

As a preliminary step toward this undertaking the Congress of the United States had, in 1848, just on the eve of the discovery of gold in California, authorized contracts to be entered into for the establishment of two mail lines of steamships, the one from New York

and New Orleans to Chagres, and the other to connect with this by the Isthmus of Panama from Panama to California and Oregon. These projects were so generally regarded as worthless investments that the contracts were taken by parties without means, who offered them for sale, and for a long time without success. Men were at length found farsighted enough to perceive their tremendous future commercial possibilities. Mr. Aspinwall secured the line on the Pacific side and George Law on the Atlantic. The Atlantic contract offered little risk, as it connected with the cities of Savannah and New Orleans, but the Pacific contract apparently offered nothing save the sinking of enormous sums of money without the prospect of one cent of profit. Genius, however, quickly perceives advantages which the ordinary mind can not grasp. With a boldness of penetration that startled the world, Mr. Aspinwall conceived the daring design of a railroad across the Isthmus of Panama, and at this time he, with Mr. Henry Chauncey and Mr. John L. Stephens, the noted American capitalist and traveler, entered into a contract with the Government of New Granada (now the Republic of Colombia) for the construction of that work.

After a large reconnoitering party of experienced engineers, under the command of Col. G. W. Hughes, had determined, early in 1849, that a line for the road should be run from ocean to ocean not exceeding 50 miles in length, the Pacific terminus was located at the city of Panama, on Panama Bay, and the Atlantic terminus at Navy Bay, on the Atlantic shore. As a base of operations from the Atlantic side, the isle of Manzanilla, at the head of Navy Bay, was selected, and it was here that the town for many years known to North Americans as Aspinwall, but by the people of New Granada or Colombia and by Europeans generally, as Colon, was started.

The supreme direction for the construction of the Panama Railroad was confided to the eminent American engineer, Mr. George M. Totten, a man of indomitable tenacity of purpose. Under him were the skilled assistant engineers whose names have already been mentioned. The building of the first 23 miles of railroad westward across the Isthmus consumed over two years, as the route lay across a deadly tropical swamp, obstructed by a dense growth of the tortuous, water-loving mangrove, and interlaced with huge and thorny shrubs, defying entrance even to the wild beasts common to the country at that time. No clearing through this well-nigh impenetrable wilderness was possible, except by the free use of axes and the formidable machete swords wielded by the natives of Panama. Progress paid a heavy toll in lives lost, and sickness and disease became so prevalent that large numbers of laborers constantly deserted. Their ranks were refilled by recruits from the swarms of immigrants flocking from all parts of the world, in a wild rush to get across the

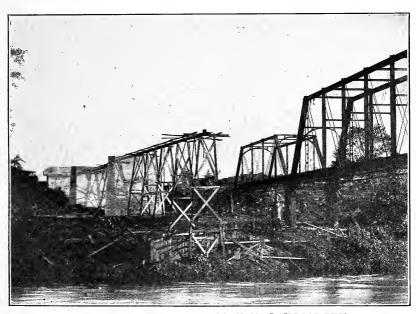


GENERAL VIEW OF BOLIVAR STREET, COLON (FORMERLY ASPINWALL).

Under an agreement with the Republic of Panama, the United States undertook to give Colon and Panama City modern sanitary works, including payed streets, waterworks, and sewerage systems. The work of paying Bolivar street was completed in June, 1908,

Isthmus on to the Pacific coast, so as to reach, from thence, San Francisco and the coveted gold fields of California.

After an infinite variety of obstacles had been overcome, the road was opened in December, 1852, for the first 12 miles, to passengers and traffic. At the Atlantic terminus, on the little island of Manzanilla at the head of Navy Bay, there had sprung up as if by magic out of a tangled, virgin, tropical wilderness a fine town, where the bustling spirit of restless North American activity and energy prevailed; where spacious docks and other terminal facilities might be seen, while the harbor began to show vessels and steamers entering and clearing for all parts of the world. This promising town was formally incorporated as a city on the 2d of February, 1852, and, as



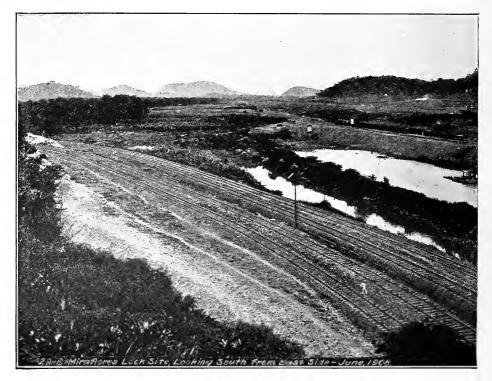
GAMBOA BRIDGE ON THE NEW PANAMA RAILROAD LINE.

The illustration shows one abutment and two piers complete, with the cofferdam for the third pier in place. This bridge is constructed of concrete and steel.

a mark of honor to the American capitalist whose financial aid had brought it into existence, was christened "Aspinwall." It was thus designated in old American geographies and encyclopedias, but, as Columbus is reputed to have discovered Navy Bay in 1502, the Government of Colombia officially rejected the name Aspinwall, and called the new city and port Colon, which is the Spanish for Columbus. Even Americans have forgotten the older name, and thus the city of Colon remains an additional reminder of the renown of Columbus.

A long step had now been taken in the construction of the projected isthmian highway, but the prospects for further advance

looked very dark, as the Panama Railroad Company had already expended its capital stock of \$1,000,000. An added gloom was the death, at about this time, of the lamented president of the company, John L. Stephens. The increasing influx of immigrants en route for California contributed toward restoring confidence and providing fresh resources for the prosecution of the work. Some errors were made in awarding contracts to companies who were unable to carry out their agreements. In spite of these reverses the railroad was pushed on, by the 6th of July, 1852, to Barbacoas, at which point



MIRAFLORES LOCK SITE, LOOK

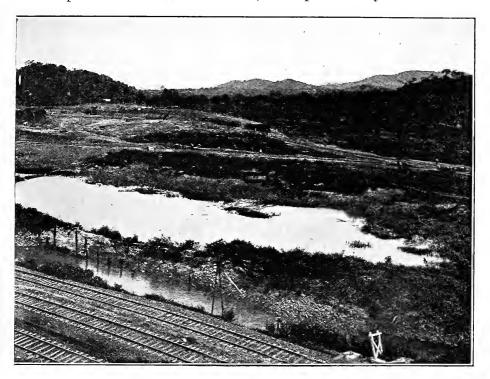
The completion of the canal will necessitate the abandonment of the original line of the Panama which involves the placing of nearly 14,000,000 cubic yards of earth work. The

the course of the road was intersected by the Chagres River, making a total distance from the city of Aspinwall, or Colon, of 23 miles.

As the work continued westward across the Isthmus, improved machinery and supplies of fresh laborers rendered construction more rapid, although operations were impeded quite frequently by the tortuous and tumultuous Chagres River tearing away temporary bridges and otherwise blocking an advance; but conditions were steadily improving, and the character of the country traversed grew more salubrious, especially in the direction of the western coast,

where a fine, rolling region infused new life and vigor into the working forces, so that by January, 1854, the summit ridge was reached, distant from the Atlantic terminus 37 miles, and 11 miles from the city of Panama.

Whilst these operations toward the Pacific had been going on, Mr. J. Young, one of the company's most efficient and energetic officers, had established a large force at Panama, and from that end the road was pushed rapidly onward, over the plains of Panama, through the swamps of Corrisal and Correndeu, and up the valley of the Rio



ING SOUTH FROM EAST SIDE.

Railroad, built by Aspinwall, and no time is being lost in the building of the proposed new line, excavations from the dam and lock sites are used in constructing the new roadway.

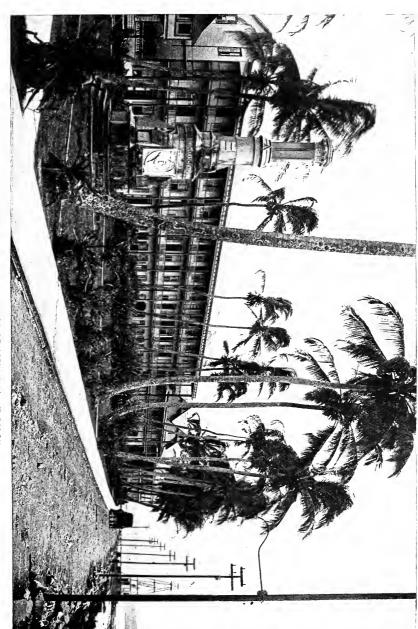
Grande, to meet the advancing work from the Atlantic side, and on the 27th day of January, 1855, at midnight, in darkness and rain, the last rail of the Panama railroad was laid, on the following day a locomotive passing from ocean to ocean, a total distance of 47 miles 3,020 feet. The maximum grade encountered was 60 feet to the mile.

The road might be said to be now in working order, but it was by no means completed, as the temporary trestles and other contrivances for crossing streams and deep ravines were made from timber taken from the adjoining woods. Subsequently, under the energetic and skillful management of Messrs. Totten and Center, the entire railroad rapidly assumed a permanent character; firm and thoroughly secured embankments took the place of the trestle work, and for the temporary bridges heavy iron structures were substituted, with abutments of stone.

Throughout the construction of the railroad, the Panama Company had displayed admirable foresight, and by providing commodious dwellings and hospitals for its thousands of employees had won their attachment and hearty cooperation. The entire cost of construction, up to the year 1859, was \$8,000,000. A very large portion of this expense was paid directly by Mr. Aspinwall, without whose moral as well as material encouragement during the critical years between 1849 and 1855, the building of this railroad, the forerunner of the great Panama Canal, now being pushed rapidly forward by the United States, would have been postponed for an indefinite number of years. The expenses incurred were fully justified, as the Panama Railroad quickly proved to be one of the most profitable investments of modern times, in spite of the temporary check which it received immediately after through railway connection overland across the United States was finally established, in 1869, between New York and San Francisco, owing to the completion of the Union and Central Pacific railroads. Mr. Aspinwall and his associates knew that this transitory setback could have no lasting effect upon their own enterprise, as the international commerce of Latin America (which has risen from \$60,000,000 in 1867 to more than \$2,000,000,000 in 1908) must very largely be transported across the Panama isthmus, and they further perceived the future enormous industrial and commercial expansion of the Far East.

Mr. Aspinwall was also largely instrumental in organizing, in 1847, the Pacific Mail Steamship Company, with an ocean route more than 12,000 miles long, between New York and Hongkong in China, via the Isthmus of Panama and San Francisco, with a branch line between China and Japan. He displayed in the building up of this enterprise the same energy and foresight which he had revealed in his relations with the construction of the Panama Railroad Company. He had the satisfaction of seeing the profits and business of the new steamship line expand enormously, the capital stock rising from \$400.000 in 1850 to \$20,000,000 in 1865, while the property of the Pacific Mail Steamship Company, in its splendid fleet of vessels, real estate, coal, stores, and cash was estimated, in February, 1867, to be worth at least \$30,000,000.

In 1856, much to the regret of all concerned, Mr. Aspinwall resigned the presidency of the steamship company, and for the remainder of his life was not very actively engaged in business. He lived in honorable retirement, but continued to be beloved and



STATUE ERECTED IN HONOR OF ASPINWALL AT COLON.

This statue was erected in 1867 by the Panama Railroad Company in honor of William H. Aspinwall, Henry Chauncey, and John L. Stephens, the three leading spirits in the promotion and construction of the road. It is a three-cornered monument, each side bearing a head in relief representing one of the pioneers of industry.

respected by the mercantile community of New York and other centers of the world. He spent much time in European travel, and two years before his death took a trip up the Nile. He resided nearly all his summers at his magnificent country seat on the Hudson River, near Tarrytown, New York. As regards his character, he represented all that was and is finest in American traditions. He had an elevated idea of the honesty of men, was a great patron of the fine arts, and his gallery of paintings was one of the finest private collections in the United States, many of the pictures being collected during his travels.

This noble-hearted and broad-minded financier died at the age of 67 in New York City, on the 18th of January, 1875. He passed away in the mansion, No. 33 University place, at the corner of Tenth street, which he caused to be built in the year 1845, and which was, at the time of its erection, regarded as one of the finest in America.

In 1867 an elegant and costly monument was erected at Colon, Republic of Panama, in honor of the founders of the Panama Railroad, Messrs. Aspinwall, Chauncey, and Stephens, whose busts in bas-relief were carved at its base.



ON THE ISTHMUS (REPRODUCED FROM HARPER'S MONTHLY MAGAZINE OF JANUARY, 1859).

PERCIVAL FARQUHAR—AN ENTERPRISING AMERICAN

HE remarkable results of American enterprise, coupled with its practical application, are forcibly exemplified in the activities of Mr. Percival Farquhar, a native of York, Pennsylvania, United States of America, who has for many years been engaged in important business operations throughout South America.

A list of the enterprises in which he is interested and their respective capitalization comprises the following:

Bahia Tramway, Light, and Power Company	\$3, 500, 000
Brazil Railway Company	40,000,000
Port of Para Works	17, 500, 000
Sorocabana Railway Company	10,000,000
Madeira-Mamore Railway Company	11,000,000
Rio Grande do Sul	14, 500, 000

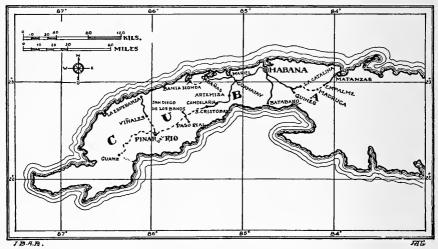
In the Tramway, Light, and Power Company of Rio de Janeiro he was largely interested, the total investment representing about \$40,000,000, while the successful promotion of the Madeira-Mamore Railway Company was his individual work, though it is being built by the Brazilian Government under a treaty clause with Bolivia. The Rio Grande do Sul Company has been financed by a French company, and construction work is progressing rapidly. The Brazil Railway Company was formed for the purpose of acquiring control of the lines of southern Brazil and of merging them into one system aggregating about \$150,000,000.

Work in American republics other than Brazil which has occupied his energies includes the street-railway system of Havana, the Havana-Santiago section of the Cuba Railroad, and the interoceanic line of Guatemala.

Mr. Farquhar, who is about 42 years of age, finds the Brazilian climate thoroughly delightful and healthy and reports the successful outcome of his many enterprises.

THE TOURING CAR IN CUBA

HE completion of a few miles of Government road now in course of construction east of Havana, and the finishing up of some miles more on which work is now being rushed west of that city, will make of three Provinces of Cuba before the present year is out (unless existing plans are delayed in execution) one vast tropical park fully opened for the first time to the touring car.



AN AUTOMOBILE TOUR IN CUBA.

The dark lines indicate roads already built; the dotted lines, those under construction or proposed.

In each of these three Provinces—Pinar del Rio, Havana, and Matanzas—there is already complete and in use a network of roads radiating from the respective provincial capitals, Pinar del Rio City, Havana itself, and the town of Matanzas, whence the highways reach eastward with Santiago de Cuba itself as their objective point. What has been lacking heretofore has been proper connection between these provincial systems, and this is now being rapidly supplied.

Government roads in Cuba are nothing less than magnificent boulevards—wide, white, and even, without grades over 6 per cent (that maximum being infrequent), without sharp curves, finished all in Telford macadam, and equipped with culverts, drains, and the best of bridges. Over these highways arch ancient laurels, royal poncianas, and other flowering trees, which make travel a cool delight the year around. Were one to ascend in a balloon, he would discover that dark-green ribbons of foliage laid across the face of the land, mark the routes of Government roads over Cuba.

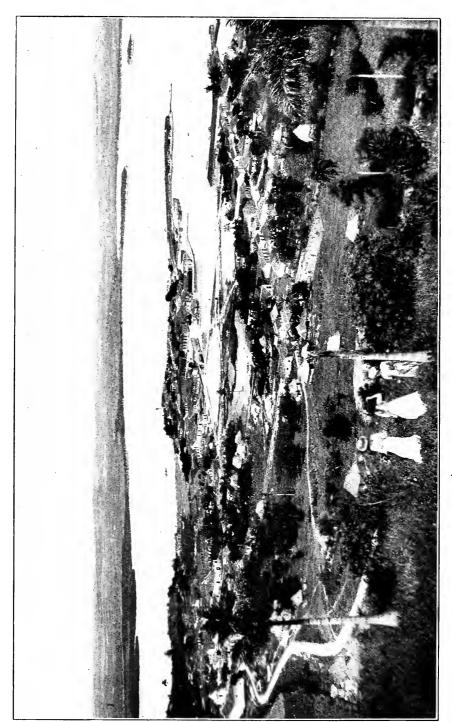
These roads invite the automobilist to explore the fairest country imaginable; they lead him forth up gentle hills and along the flanks of steeper highlands; into smiling fertile valleys, where royal palm groves stand; by the shores of intensely blue seas; or, again, within sight of green, wooded mountains, dark and irregular against a luminous sky.

No description can do the landscape of Cuba justice. To be believed it must be seen in all its fairy-like coloring and unusual combinations of hill and vale, palms, pines, and hanging aeroids, wild wastes, and productive farmlands, sea, sky, and mountain alternating, or perhaps blended into exotic panorama.

For instance, in a few hours, starting from Havana, it is possible to cross Cuba from the Atlantic Ocean on the north shore to the Caribbean Sea on the south. The distance from Havana to Batabano is but 30 miles or so. A fine road runs all the way, through very pleasant country, now level, now broken by the Managua Hills, through which the highway finds a passage among thick clusters of palm trees without ascending a heavier grade than 5 per cent. Batabano is the center of the sponge-fishing industry, and there is much of interest in the old town, and especially in the port itself, which is some 4 kilometers distant from the town proper.

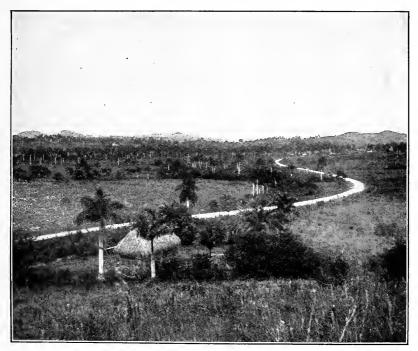
Or from Havana the car may turn westward, following the north coast via Marianao, Arroyo Arenas, Punta Brava, Hoyo Colorado, Caimito, and Guanajay to Mariel, loveliest of Pinar del Rio's few ports. On a hill overlooking the village, the bay (round and perfect as an illustration in a primary geography), and all the fertile, cultivated Mariel Valley is the "Rubens Palace," a miniature Alhambra, intended to be a private pleasure resort, but recently purchased by the Government for hospital purposes. Automobiles climb the hill to its very door. The prospect from the building's upper balconies is almost unreal; it looks like a vast curtain prepared for some gigantic theater.

Westward still from Guanajay the Government road runs on to Cabañas, center of the best sugar-producing region in the west country. Very shortly it will reach Bahia Honda, toward which it is working rapidly.



A BIRD'S-EYE VIEW OF A COAST TOWN NEAR HAVANA, CUBA.

The main Government road, which soon will unite Pinar del Rio City and Havana, is finished to a point a little beyond San Cristobal, 92½ kilometers from Havana. An excursion into the west by way of that main road is worth while. To the north are the mountains of the Organo Range, built on a foundation of hard blue limestone, but honeycombed with caves, where Indians, runaway slaves, and bandits once hid, and later the Cuban revolutionist made his ambush, only to sally forth on given signal to burn the towns of the valley, pass the trotcha, or defeat the Spanish in drawn battles as famous as Cacarajicara. Now American orange growers, from their estates strung all along the line of the railway, picnic in the caverns there.



LOOKING BACKWARD.

This fine macadamized road winds gracefully through the valleys and over the hills, reflecting a white trail far in the distance.

When the 81 kilometers of road between San Cristobal and Pinar del Rio, on which work is progressing, are finished, the touring car will be admitted to the world's most famous tobacco region, the genuine Vuelta Abajo. Roads traversing all that western end of the island are either finished or rapidly finishing. San Diego de los Baños will then be accessible to the automobile turning north from Paso Real. Esperanza, on the north coast, like Coloma, on the south, can be reached from Pinar del Rio, and westward still beyond that city other roads will be opened to Guane, oldest town in all that

vicinity, and Mantua, once the "farthest west," but since outdistanced by a Canadian colony of orange growers located at Ocean Beach, on Guadiana Bay.

From Havana there is a good road to Guines, center of the vegetable gardening of Cuba, where tomatoes, peppers, and eggplant

thrive, grown under irrigation, for the American market.

There are still other routes due south and eastward. From La. Catalina the highway is advancing on Madruga and Empalme, whence the way is clear to Matanzas, with its famous Yumuri Valley, Monserrat Hermitage, Caves of Bellamar, and all the unrivaled beauty of the city itself, white and red on its sloping hills above a placid bay.

When the government's entire road plan is complete the system will make Santa Clara, Camaguey, and Oriente Provinces also available to the touring car. Government roads will cover the country like a seine. The automobilist may then range Cuba from Point Maysi to San Antonio headland, as readily as he drives through Lincoln Park in Chicago now. But to make of as big an island as Cuba a veritable park for the pleasure car is an undertaking which calls for time. despite the fact that work toward its completion is being rushed as rapidly as is consistent with good construction. Meanwhile there are enough roads already complete and in use to keep a car going some time.

Each year an increasing number of automobilists arrive in Cuba during the winter season (November to March). Every courtesv is extended them.

The tourist is permitted to bring into Cuba free of duty his own car for his own use during his visit to the island, provided he will make oath or affirmation that the machine is not to be sold or rented or made the basis of any commercial transaction while in this country. To guarantee good faith a bond to an amount not less than twice the duties the machine would incur, if imported for sale, is required of him. The exemption so obtained holds good for the period of time agreed upon in each specific case, not, however, to exceed six months, unless a special extension is obtained from the Department of the Treasury.

Under certain circumstances, sometimes avoidable, considerable lighterage fees are charged on cars entering Havana. Owners who propose to bring in machines are strongly advised to communicate beforehand with Secretary R. G. Mendoza, Amargura 23, Havana, of the International Automobile Racing Association of Cuba, who will refer such inquirers to some reliable broker, competent to expedite the entrance of the car at a minimum of expense and red tape.

Municipal regulations governing automobiles within the jurisdiction of the Havana City Council are light in the extreme. Resident chaffeurs are required to prove ability before the license required of them is issued, but the council takes it for granted that all visiting drivers are competent. They are put to no test; neither is any license asked of them. Transient owners are urged to see to it that the city's abiding faith in outside talent is not disturbed.

The speed limit for automobiles in Havana's city streets is 8 miles an hour, which is the maximum consistent with safety.

On Malecon drive a rate of 12 miles an hour is legal. When he sees it unanimously exceeded by local automobilists, the visiting chauffeur is asked to remember that if the law is not strictly enforced



ENTRANCE TO A PRIVATE RESIDENCE.

The houses of Cuba are generally one or two stories high, with thick walls and built around a center court, or "patio." The massive front door, or "zaguan," opens upon a garden of flowers, palms, shrubbery, and vines.

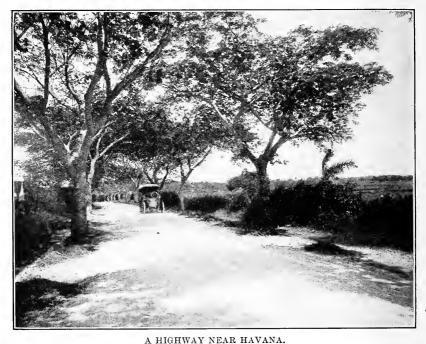
on that wide sea-front avenue it is precisely because nobody really abuses the leniency of the autocyclist police.

A car will be found of service to its owner in Havana itself as well as in the open country. The streets of the "old city," or "downtown," section are, it is true, narrow, cobble paved, and dangerous for a driver unacquainted with their peculiarities. There are certain "up" streets which traffic is not permitted to travel "down;" similarly, there are "down" streets conveyances must not drive "up." Sign plates on the walls of corner houses are not always plain reading to a stranger who, missing their meaning, is liable to find himself the occasion of a blockade. In the newer, or "uptown," quarter of

the city, however, even the side streets are wide in comparison, better paved, and less crowded. Here a car is more at its ease.

Across the center of Havana, from Monte street to the sea at Punta, reaches a series of parks and boulevards, comprising Campo Marte, India Park, Upper Prado, Central Park, and the Prado, which is a double drive (inclined toward the ocean shore) which, at its lower end, connects with the Malecon, a wide boulevard edging all Havana's water front.

A circuit of 5 or 6 miles through these parks and along these boulevards is the favorite drive of the city's three hundred or so cars, especially at the sunset hour on Sundays and whatever week days, fashion happens at the time to prefer.



Many of the public roads of Cuba are lined with rows of beautiful evergreen trees.

The center of the street is the automobilist's; other vehicles keep to the sides, where when a crowd is out, as at carnival time, the police hold them in lines moving in opposite directions.

There are no rules or regulations governing automobiles once they are outside the city limits, excepting at Camp Columbia, where army authorities have fixed 8 miles an hour as the speed limit while passing through the reservation.

Drivers are urged to respect the rights of a community where perfect freedom is allowed them.

Cars should slow up on approaching hamlets and villages. This is a courtesy which should be the more readily accorded, because it is not demanded, but merely confidently expected as a matter of course.

Few, if any, accidents have occurred on country roads or in country towns of Cuba, and because of this circumstance the automobilist is welcome everywhere. Half the charm of his travels in this island will be gone when the ivory grin of appreciation fades from faces of urchins who wave after him and the countryman in the field, like the housewife in the hut's doorway, ceases to regard him with approval as he comes and goes.

It is customary in Cuba for persons meeting on the road to salute each other. Occupants of a car are recommended to try the effect of greeting every passerby. The surprising variety of smiles and grave inclinations of head and body they will receive in recognition makes the effort well worth while.

The tourist will not find a knowledge of Spanish necessary in traveling over Cuba. He should, however, learn to pronounce properly the name of the place he means to reach before setting out upon any excursion. If to say it tries his tongue too severely, he should have the name written on a card in plain characters. Then, in case of doubt as to his way there, he need but pronounce the name or show the card to persons he meets. If he will wave his arms about in helpless fashion and gaze all along the horizon anxiously, while repeating the name or exhibiting the card, it will be perfectly understood that he wants to know the route to the place he mentions. The tourist will find everybody willing to help him; there will be no attempt to misinform him. The Cuban who directs him may not speak a word of English, but he will converse so eloquently in pantomime that the traveler, even without any knowledge of Spanish, will understand.

It is quite impossible to really get lost in the country; there is always the alternative of turning back to Havana (or Matanzas or Pinar del Rio), for in the Provinces all good roads leading in the general direction of the capital city inevitably arrive there.

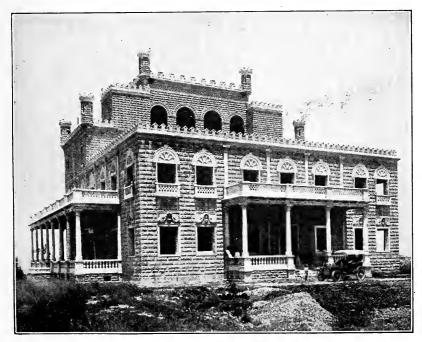
Cuba is properly policed, in the city and in the country. But even were provincial police, in blue, and rural guards, in khaki, entirely absent from the Government highways, which they patrol in pairs, no traveler would be in any wise molested.

The only possible danger to be found en route over interior Cuba is that occasioned sometimes by drivers of carts, particularly milk wagons, who go to sleep in their seats, leaving their horses or mules to plod home unguided. These men either do not waken at all though Gabriel himself blow the horn, or, startled from sleep, they are confused and liable to turn squarely in front of an approaching car.

The road leads through fertile valleys, fringed with picturesque hills, whose graceful slopes are covered by a variety of luxuriant tropical frees and plants. A GROVE OF ROYAL PALMS.

"The rule of the road," while generally observed, is not always respected by country drivers, who sometimes insist on turning to the left.

Good road houses are scarce in Cuba. There are, however, cafés in all the towns and some of them are excellent in equipment, stock, and service. Refreshment enough to stave off actual hunger and thirst can be procured in any village. Here again pantomime comes to the service of the traveler who knows no Spanish. Inn keepers and their apprentice lads are invariably too intent on selling something to a foreigner to laugh at his antics.



GOVERNMENT HOSPITAL.

This edifice, formerly known as "Ruben's Palace," was erected as a private pleasure resort, and was recently acquired by the Government for use as a hospital. The exquisite decorations of the exterior give it the air of a miniature Alhambra. It is situated on a hill in the beautiful Mariel Valley, which is traversed by one of the best roads in the Republic.

The currency customary in the interior is Spanish silver.

If, however, the excursion be one which keeps the party out over meal time, it will be found advisable to carry a luncheon rather than to rely on cafés outside the capitals for more than accessories—such, for instance, as coffee, which may be had anywhere hot, and beer, which is also plentiful, though it is not always served cold.

Over-night lodgings are difficult to find to an American's liking outside Havana, Pinar del Rio, and Matanzas, or some few of the smaller towns where exceptional accommodations exist.

1048 INTERNATIONAL BUREAU OF THE AMERICAN REPUBLICS.

In this connection it should perhaps be remarked that Havana's own hotels have improved markedly during the last year or so. The newer establishments offer clean, cool rooms, well furnished, with baths, and meals are served acceptably.



THE SENTINELS.

Three royal palm sentinels on the outskirts of a Cuban village near the public road. The water in the middle background is an arm of the sea.

In Pinar del Rio there are two good hotels. There are as many in Matanzas.

In each of the three cities there are garages, those of Havana being in the hands of fully competent mechanics.



THE SPANISH LAN-GUAGE IN THE MODERN CURRICULUM :: :::::

HE study of Spanish language and letters has become an important part of the curriculum in the educational institutions of the United States, and particularly in the universities and colleges of the West and Middle West, where the progressive spirit of the times is perhaps better emulated than in the older and more conservative institutions of the East, and where, besides, the Spanish influence is more in evidence because of trade relations with Spanish-American countries, where Spanish is the national tongue.



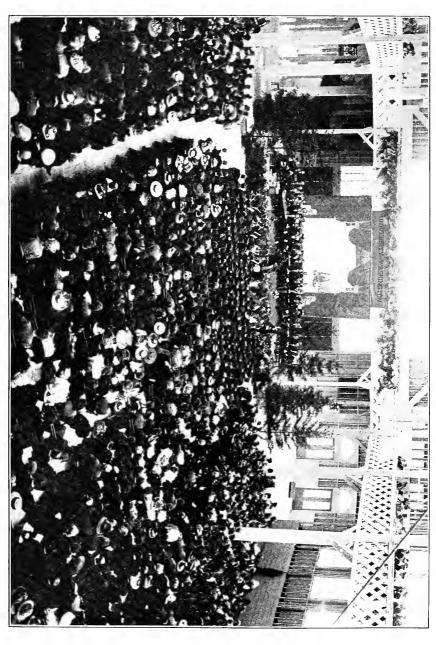
THE SPANISH CLASS IN THE UNIVERSITY OF WASHINGTON.

In many of the western universities there has been a phenomenal growth in the number of students enrolled during the past ten years, some increasing over 100 per cent within the last half of the decade. There has been a constant shifting and enlargement of the curriculum to meet new demands and to keep pace with the progress which has brought this about. The study of Spanish has come into this new curriculum, and the popularity and demand for this one subject has become more prominent perhaps than that of any other. Ten years ago there were but few universities offering more than a few

hours each week in Spanish, the instructors usually being professors of French or Italian, and in many cases instruction was given by professors without practical knowledge of modern languages. Now the department of Spanish occupies a position paralleling in importance that of German and French, and from a few pupils in the elementary principles the number has grown to hundreds pursuing a complete course in the language, from first principles of modern commercial Spanish through the intervening stages and development of literature and the classics to the period when the language was hardly distinguishable from the mother Latin.

As one of the institutions exemplifying this growth and interest, the University of Washington, in the city of Seattle, is a striking example. In the year 1897 the study was first taken up by a class of beginners, none of whom had any previous knowledge of the language. The following year the class was continued and another started in the elementary work. In the third year there was included more advanced work in literature and some instruction in the older forms. In the early years the same instructor taught all Spanish and French classes, but the increase of enrollment made this impossible and the Department of Romance Languages was divided, and the Spanish became a separate department in 1903. At the present time the department finds need for three instructors, and during the last scholastic year over 200 students took Spanish, while in the present year a gain of $33\frac{1}{3}$ per cent has been made in the enrollment over that of the past year.

The courses offered comprise the literary and practical with the essentials of grammar. The practical side embraces the use of the language from the business standpoint, including correspondence and newspaper reading and commercial forms, while on the literary side courses are given treating of the development of the Spanish novel, with emphasis upon the fact that the literature of the world is indebted to Spain for the "picaresque" type of short story. literature of the "Golden Age," with its renowned dramatists, Lope de Vega and Calderon, are read and discussed in class, and also the immortal Quijote, where the student makes use of the original edition of 1605 with its archaic peculiarities. Comprehensive courses are given in the history of Spanish literature with special training for students who make this subject their major work or expect to become teachers. Students graduating from the University of Washington have found that Spanish often becomes the chief factor in their success or ability to secure positions, and each year positions are being filled by those who know this language and are able to use it in business transactions, or to teach it in those schools where it is being inaugurated and where its growing importance is being recognized.



GRADUATING EXERCISES OF THE UNIVERSITY OF WASHINGTON, SEATTLE, STATE OF WASHINGTON, HELD IN THE MANUFACTURES BUILDING ON THE GROUNDS OF THE ALASKA-YUKON-PACIFIC EXPOSITION.

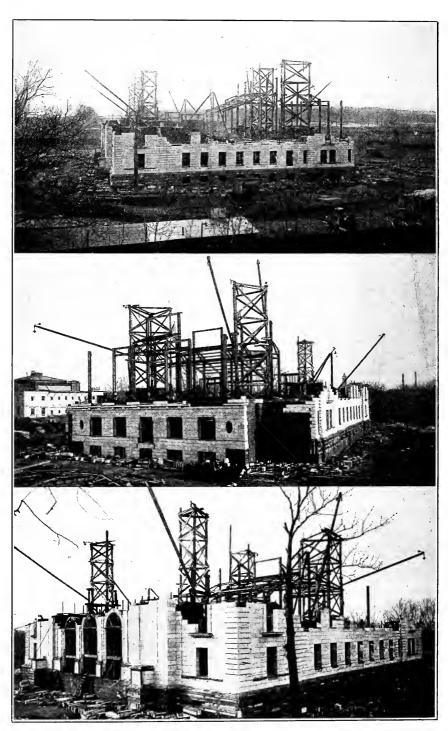
The cause for this increased interest in the University of Washington is the same as in other institutions the country over. The cosmopolitan population of the city may have something to do with the growth, but here, as elsewhere, the idea has gained ground that it is better for the average college graduate to have command of a living language which will enable him to meet his neighbor or strangers from other countries than to spend years in gaining culture in the fields of dead languages which when attained leaves him out of touch with the progress of the world in which he lives and moves. The students of this institution realize that culture and literary training may be secured from the study of Spanish, and the idea which was promulgated in the past that Spanish literature contains nothing but the Quijote and the Ballads of the Cid has vanished with the approach of a newer light which shows a broader field, affording splendid opportunity and offering a rich reward. The well-rounded scholar, such as all educational institutions hope to produce, will not fail to study the Spanish language, since it is becoming universally recognized as an important factor in culture and education and in the equipment of the merchant, statesman, and traveler.





REPORTS RECEIVED TO NOVEMBER 20.

Title.	Date of report.	Author.
ARGENTINE REPUBLIC,		
Projected underground railroad in Buenos Aires BRAZIL.	July 22	Alban G. Snyder, Consul-General, Buenos Aires.
Rubber Industry, Year ended June 30, 1908	July 22	George E. Anderson, Consul-General,
Exports of Hides from Rio Grande do Sul, First half of 1908.	July 23	Rio de Janeiro. Do.
New Agricultural Bank. Coffee Sales Cotton Imports in 1907 Official Customs Valuation World's Chocolate Trust Rebates on Freight to Brazil Extension and Lease of Rio de Janeiro Docks Notes: Improved Coffee Machinery; Japanese Immigrants in State of Rio de Janeiro; Railway Statistics; Rubber Growing in Sao Paulo; Bids for Construction of Railroad from Timpo Babis to	July 27 July 29 July 30 Aug. 10 Aug. 11 Aug. 12 Aug. 15	Do. Do. Do. Do. Do. Do. Do. Do. Do.
Propia, Sergipe; Catalogues of American Manufacturers of Agricultural Implements and Machinery, Well Drilling Machinery, etc.; Imports and Exports; Valorization of Rubber; Plans for Improved Agricultural Methods.		
	do Aug. 18	Pierre Paul Demers, Consul, Bahia. George A. Chamberlain, Consul, Pernambuco.
Electric Railway from Rio de Janeiro to Petropolis	Aug. 24	George E. Anderson, Consul-General, Rio de Janeiro.
American School Furniture in Brazil	Aug. 25 Sept. 1 do	Do. George H. Pickerell, Consul, Para.
Importation and Sale of Silk in Para Brazilian National Exposition. CHILE.	Oct. 1	George E. Anderson, Consul-General, Rio de Janeiro.
Construction of bridges. Trade outlook. Notes: Immigrants from Europe; Government buildings under construction; Indians attending mission school on Dawson Island; Forest reserves; Population; Exports for June, 1908; Nitrate used in manufacture of nitric acid; Funds to reconstruct municipal theater at Valparaiso.	July 28 Aug. 19 do.	Alfred A. Winslow, Consul, Valparaiso. Do. Do.
Trade opportunities. Notes: Valuation of real estate for purposes of taxation; Estimated cost of Navy for 1909; Government receipts; New steel plant at Corral; Register for entering blooded stock; Rebuilding of Valparaiso.	Aug. 25 Sept. 12	Do. Do.
Commerce and industries of Punta Arenas COLOMBIA.	Sept. 30	John E. Rowen, Consul, Punta Arenas.
Laws regulating practice of dentistry, medicine, midwifery, pharmacy, surgery, and veterinary	Aug. 6	Jay White, Consul-General, Bogota.
surgery. Drug trade	Aug. 7 Aug. 8 Sept. 5 do. 8 Sept. 8 Oct. 10	Do. Do. Isaac A. Manning, Consul, Cartagena. Do. Do.
Imports and exports in August, 1908	Oct. 21	Do.



VIEWS OF THE NEW BUREAU BUILDING, TAKEN NOVEMBER 30, 1908.

REPORTS RECEIVED TO NOVEMBER 20—CONTINUED.

Title.	Date of report.	Author.
COSTA RICA.		
Contract for Completion of Pacific Railroad; also Brief History of the Road.	Oct. 8	John C. Caldwell, Consul, San Jose.
CUBA.		
Shoe Trade	Oct. 31	James L. Rodgers, Consul-General,
DOMINICAN REPUBLIC.		Havana.
Need of Saw Mills	Oct. 15	Ralph J. Totten, Consul, Puerto Plata.
Shoe Trade	Oct. 29	Do.
ECUADOR.		
Historical Sketch of Ecuador, and Information Re-	July 29	Herman R. Dietrich, Consul-General,
garding Growth and Progress of Quito. Commerce and Industries, 1907 Municipal Income and Expenditures of Guayaquil	Sept. 3 Oct. 17	Guayaquil. Do. Do.
in 1907. Banks and Stock Companies in Guayaquil and the Pichincha Bank of Quito, at close of 1907.	do	Do.
HONDURAS.		
Railroad from Truxillo to Tegucigalpa	Oct. 21	Drew Linard, Consul, Ceiba.
MEXICO.		
Sale of Corsets in Frontera District	Sept. 18	Alphonse J. Lespinasse, Consul, Fron-
Trade of Ciudad Porfirio Diaz District, first half of 1908.	Sept. 24	tera. Luther T. Ellsworth, Consul, Ciudad Porfirio Diaz.
Protection Against Floods	do Sept. 30	Do. Clarence A. Miller, Consul, Mata-
Mexico as a Field for American Trade	Oct. 8	moros. Arminius T. Haeberle, Consul, Man
Tampico Pecans and Fruits Hamburg-American Line and The Royal Mail Steam Packet Co. at Coatzacoalcos.	do Oct. 9	zanillo. P. Merrill Griffith, Consul, Tampico. William W. Canada, Consul, Veracruz
Military Prisons Agricultural Conditions at Tampico Haberdashery in Veracruz District Oil Well at Dos Bocas Shipping at Port of Acapulco for Year Ended June	Oct. 17 Oct. 20 Oct. 23 Oct. 24	Do. P. Merrill Griffith, Consul, Tampico. William W. Canada, Consul, Veracruz P. Merrill Griffith, Consul, Tampico. Maxwell K. Moorhead, Consul, Aca
30, 1908. Lease of Mexican-American Steamship Co. by the	Oct. 26	pulco. P. Merrill Griffith, Consul, Tampico.
Wolvin Line. Moving Picture Machines in Tampico District	Nov. 4	Russel H. Millward, Vice-Consul, Tampico.
PANAMA.		
Furniture for the Tropics.	Oct. 3	Arnold Shanklin, Consul - General Panama.
PARAGUAY.	A 115 00	Industry Committee :
Leather Trade	Aug. 20 Sept. 16	Edward J. Norton, Consul, Asuncion Do.
PERU.		
Imports and Exports in 1907	Aug. 28	Samuel M. Taylor, Consul-General,
Trade of Salaverry.	Sept. 1	Callao. Do.

FORECAST OF THE WORLD'S WHEAT CROP FOR 1908–9.

The Argentine Government, through its Department of Agriculture, has issued a forecast of the wheat crop of the world for 1908–9 based upon trustworthy official and consular reports from the countries covered. The total is fixed at essentially the same as that of the preceding year 1907–8, or 84,215,000 tons, distributed as follows among producing countries:

Country.	Tons.	Country.	Tons.
United States Russia France India Argentine Republic Austria-Hungary Italy Germany Canada Spain	14,500,000 8,200,000 6,000,000 5,500,000 5,200,000 3,800,000 3,600,000 3,400,000	Baikan States Australia United Kingdom Asia Minor Belgium Portugal Holland Greece Switzerland Other countries	1, 100, 000 \$50, 000 215, 000 150, 000

For the United Kingdom the crop is estimated as about the same as that of the preceding year; for Austria-Hungary it is a little less; for France, owing to local conditions, a decline of more than 1,000,000 tons is prefigured; for Germany a gain in production is calculated; Belgium and Holland have little effect on the world's wheat market, but their crop is estimated at its normal status; for Italy a decrease is calculated; Spain and Portugal figures are about the same as last year; for the United States a gain is indicated, as is the case with Canada and the Argentine Republic; Australian conditions are analogous to those of 1907–8; Russia, India, and the Balkan States are estimated on a somewhat lower basis than in the preceding year, while the anticipated output of Asia Minor is practically the same.

Exporting countries are given as the United States, Canada, the Argentine Republic, Australia, Russia, India, the Balkan States, and Asia Minor.



GENERAL ARBITRATION TREATY WITH BRAZIL.

The Government of the Argentine Republic and the Government of the Republic of the United States of Brazil, desiring to establish on a permanent basis the old relations of friendship and neighborliness that happily obtain between the two countries, have resolved to celebrate a General Arbitration Treaty, and, for this purpose, have named plenipotentiaries, that is to say:

His Excellency Señor Don Manuel Quintana, President of the Argentine Republic; Señor Don Manuel Gorostiaga. Envoy Extraordinary and Minister Plenipotentiary in Brazil; and His Excellency Señor Francisco de Paula Rodríguez Alves, President of the Republic of the United States of Brazil; Señor José María da Silva Paranhos de Rio Branco, Secretary of Foreign Relations of said Republic;

Who, duly authorized, have agreed upon the following articles:

ARTICLE 1. The High Contracting Parties agree to submit to arbitration the controversies that may arise between them and which they have not been able to settle by direct negotiations or by any other means, to decide in an amicable manner international litigation, provided that such controversies are not upon questions that affect the constitutional precepts of either of the two countries.

ART. 2. Settled questions that have been the object of definite agreements between the two Parties shall not be renewed by virtue of this treaty, and only questions concerning the interpretation or carrying into effect of the same shall be submitted to arbitration.

Art. 3. In each case that occurs the High Contracting Parties shall sign a special arbitration agreement.

ART. 4. The points to be arbitrated shall be set forth with proper clearness by the High Contracting Parties, who shall also determine the scope of the powers of the arbitrator or arbitrators, and the formalities of the procedure.

ART. 5. In the absence of a special stipulation between the Parties, the arbitrator or arbitrators shall designate the time and place of the meeting outside of the territory of the Contracting States, select the language that shall be used, determine the methods of instruction, the formalities and terms to which the Parties shall be subjected, the procedure to follow, and, in general, take all the necessary measures to exercise their functions, and decide all the difficulties that may arise in the course of the discussion.

The two Governments agree to place at the disposal of the arbitrator or arbitrators all the means of information that they may have.

ART. 6. The designation of arbitrator or arbitrators shall be made in the special arbitration agreement, or in a separate instrument, after the arbitrator or arbitrators selected shall have decided to accept the commission.

ART. 7. If it should be decided to submit the question to an Arbitration Tribunal, each of the High Contracting Parties shall appoint an arbitrator, and shall endeavor to agree with the other upon the selection of a third arbitrator, who shall be Chairman of the Tribunal in accordance with the law.

In case of disagreement concerning the selection of the third arbitrator the two Governments shall request the President of the Swiss Confederation to make the appointment of the Chairman of the Tribunal.

ART. 8. Each one of the Parties may appoint one or more representatives to defend its cause before the arbitrator or the Arbitration Tribunal.

ART. 9. The arbitrator or the Arbitration Tribunal is empowered to decide concerning the validity of the arbitration and the interpretation of the same. Consequently he is also authorized to decide the controversies between the contracting parties, as to whether certain questions that may arise constitute or not matter that may be submitted to arbitral jurisdiction under the terms of the arbitration agreement.

The Arbitral Tribunal has jurisdiction to decide concerning the regularity of its own constitution.

ART. 10. The arbiter or Arbitral Tribunal shall decide according to the principles of international law, following the special rules that the two parties may have agreed upon, or *ex ocquo et bono*, in conformity with the powers that may have been conferred upon them in the arbitration agreement.

ART. 11. The decisions of the Tribunal shall be made in the presence of the three arbitrators and by a unanimous or a majority vote.

The concordant vote of the two arbitrators first selected shall decide the question or questions submitted to the Tribunal. Should there be a difference between the two, the Chairman or umpire shall adopt one of the two votes, or shall give his own vote, which shall be final.

If one of the arbitrators is absent, the meeting shall be suspended until the arbitrator who is absent for a just cause can be present. If, nevertheless, after the absent arbitrator has been duly summoned, he should, without a just cause, not wish to take part in the deliberations, or in other acts of procedure, the Tribunal may continue its sessions with the two who are present, recording in the proceedings the voluntary and unjustifiable absence of the other.

ART. 12. The sentence shall definitely decide all the points in litigation, and shall be issued in duplicate signed by the sole arbitrator, or by the three members of the Arbitral Tribunal. If any of these should refuse to sign it, the other two shall record this fact in a special act signed by them.

The sentences shall or shall not be based on the special compromise agreement, as may have been agreed upon.

ART. 13. The representative of each of the two parties shall be notified of the decision by the arbitrator or Arbitral Tribunal.

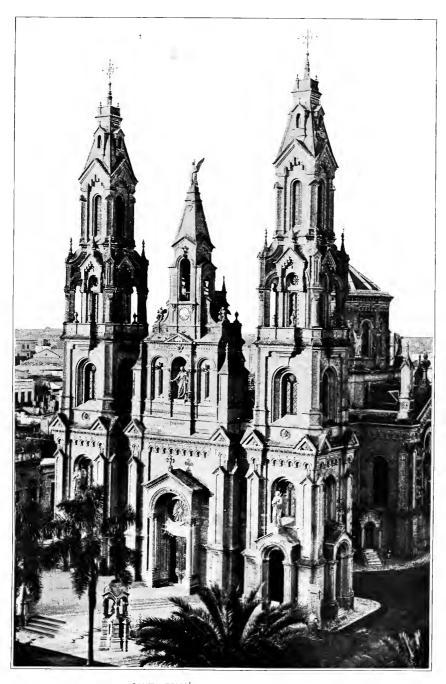
ART. 14. The sentence legally pronounced decides, within the limits of its scope, the litigation between the parties. It shall indicate the time within which it shall be carried out.

Art. 15. Each of the Contracting States agrees to observe and to loyally comply with the arbitral sentence.

ART. 16. The questions that may arise concerning the fulfillment of the sentence shall be decided by arbitration, and, whenever possible, by the same arbitrator that rendered the decision.

ART. 17. If before the sentence is carried into effect either of the parties in interest should receive knowledge of the falsity or counterfeiting of any document that may have served as the basis of the sentence, or should prove that the latter was, in whole or in part, caused by an error of fact, he may appeal for a new trial before the same arbitrator or Tribunal.

ART. 18. Each of the parties shall bear the expenses incurred in their representation and defense, and shall pay half of the general arbitration expenses.



SANTA FELICÍTAS CHAPEL, BUENOS AIRES.

This renowned church represents the modern tendency in church building. Although erected in the early days of the Republic, it is noted for its costliness of construction and adornment, combined with the architectural symmetry characteristic of most Catholic church edifices.



REVIEW OF TROOPS IN BUENOS AIRES.

On the National Holiday, the 25th of May, the Argentine President reviews the troops stationed in and around the capital. This ceremony takes place on the broad avenues opening into the Plaza de Mayo, in front of the Government House. The peace strength of the Argentine Army is about 18,000 officers and men.



A PRIVATE RESIDENCE OF BUENOS AIRES.

Buenos Aires is noted for the beauty of private residences. Wealthy landowners and ranchers of the interior spend a large portion of the year in the capital, and to a large extent business management of the country is concentrated in this city, which is embellished, in consequence, with magnificent and costly private homes.

ART. 19. After approval by the legislative power of each of the two Republics, this Treaty shall be ratified by the respective governments, and the ratifications shall be exchanged in the City of Buenos Aires or in Rio de Janeiro, in the shortest time possible.

ART. 20. The present Treaty shall be in force for ten years, counting from the date of the exchange of ratifications. If it should not be denounced six months before the expiration of the term, it shall be renewed for another period of ten years, and so on successively.

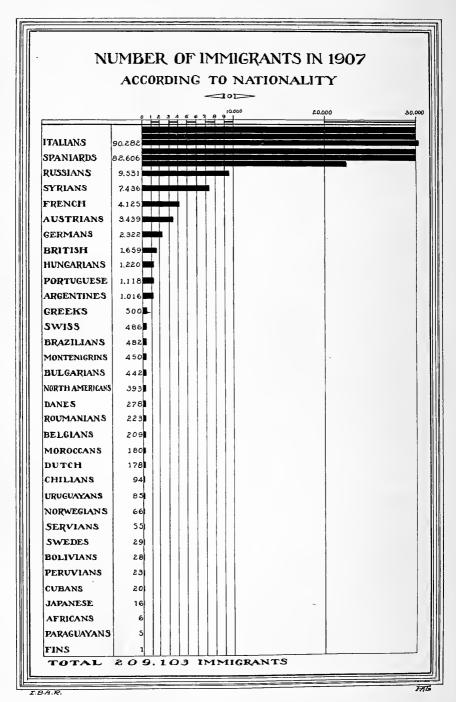
In witness whereof, we, the plenipotentiaries above mentioned, sign the present instrument in duplicate, one copy in Spanish and the other in Portuguese, sealing same with our seals.

Dated in the City of Rio Janeiro on the seventh day of the month of September, of the year nineteen hundred and five.

(Signed)

MANUEL GOROSTIAGA. RIO BRANCO.

Senator Joaquin V. Gonzalez, after the Arbitration Treaty with Brazil had been read to the Argentine Senate, stated that he was glad to be a member of a commission whose duty it was to inform the Senate concerning the proposed treaty, because the adoption of the treaty assured the political peace and growth of the country on sound, economic, and effective bases. He referred to the salutary effect of the Treaty of Peace made with Chile in 1902, how the good will of the two nations was strengthened thereby, and the great reciprocal benefits that were derived from the amicable settlement by arbitration of the questions pending between the countries. He reminded the Senate that the time was propitious for acting upon the treaty, in order that the bonds of friendship which now unite the two republics should be firmly cemented for all time, and referred to the general policy of amity and peace of the Argentine Republic toward all her sister republics, expressing a desire that the treaty be sanctioned in order that works of common interest and a more active interchange of international products might be promoted and encouraged with the neighboring countries, and especially with Brazil. He stated that it was estimated that nine-tenths of the controversies and disputes arising among nations came from misunderstandings which were often easily explained and satisfactorily settled by a calm consideration of the causes which had given rise to them. He stated that this arbitration treaty originated with Minister Portela in 1898, and was successfully terminated by Doctor Goros-TIAGA in 1905. He spoke in the highest terms of the future of arbitration in the settlement of international disputes, and especially with reference to the Republics of America.

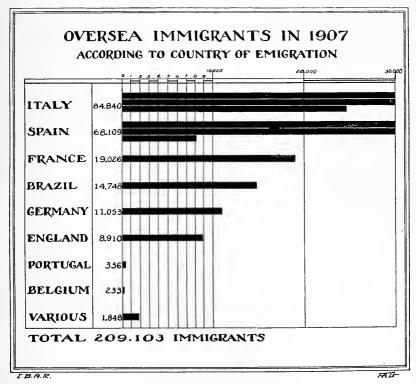


CROP REPORT FOR 1908.

The Argentine Government has issued its report of the last harvest of wheat, linseed, and oats, and of exports up to June 30, last, which, together with additional data up to July 31, shows the following figures:

Crop.	Production	Exports	Exports
	crop year	crop year	same
	to July 31,	to July 31,	period last
	1908.	1908.	year.
Wheat Linseed Oats	Tons.	Tons.	Tons.
	5, 263, 705	a3, 136, 840	a 2, 701, 753
	1, 100, 700	864, 456	778, 905
	492, 770	383, 117	147, 360

a Including flour.



IMMIGRATION IN THE ARGENTINE REPUBLIC.

It is estimated that 1,300,000 tons of wheat and 100,000 tons of linseed are needed for consumption, while nearly the whole production of oats is exported, therefore the quantities of wheat and linseed available for export are estimated at 4,000,000 and 1,000,000 tons, respectively, leaving still to be exported this year 800,000 tons of wheat, 150,000 tons of linseed, and 100,000 tons of oats.

The report shows the following distribution of the production of grain among the provinces and territories:

Province.	Wheat.	Linseed.	Oats.	Province.	Wheat.	Linseed.	Oats.
Buenos Aires Santa Fe Cordoba Entre Rios	1,019,708 1,183,409	Tons. 324, 306 504, 734 110, 448 151, 410	Tons. 467, 319 7, 067 2, 500 9, 800	Pampa Central. Other provinces and territories.	Tons. 207, 471 75,000	Tons. 7,012 2,800	Tons. 4, 283 1,800

The cultivation of oats has made remarkable progress, the total production in 1906 having been only 53,137 tons.

The areas of land sown in grain for the last harvest, with the amount of increase over the previous year, were as follows, in hectares (hectare=2.47 acres):

Crop.	Hectares.	Increase.
Wheat Linseed Oats		67, 700 370, 000 200, 000

The average production per hectare was 995 kilograms (kilogram=2.2 pounds) of wheat, nearly 800 kilograms of linseed, and 1,735 kilograms of oats.

FROZEN-MEAT INDUSTRY.

The Argentine Republic now occupies the first place in the frozen-meat industry of the countries of the world. The total capital employed in this industry in 1907 exceeded 70,000,000 pesos, and more than 4,800 workmen were engaged in the various establishments. The city of Buenos Aires is a large consumer of Argentine meats, the annual demand there necessitating the killing of more than 600,000 beeves. The meat industry, large as it is at the present time, is only in its infancy. The cheapest and most excellent raw material in the world is at hand in practically inexhaustible quantities, and the industry, therefore, must necessarily greatly increase and develop in the Republic.

STEAM RAILWAY AND TRAMWAY EXHIBITION IN 1910.

The Exposition to be held in the city of Buenos Aires in 1910, in honor of the centennial of the independence of the Argentine Republic, will have a section for steam railways, and for tramways other than electric tramways, and which will be a useful and instructive feature of the celebration. The railway and tramway question, covering the large field of rural and urban transportation, is very important in the Republic, and this department of the Exposition promises to be of great practical benefit to the railways and tramways of the nation, and to the Argentine people in general.

REGULATIONS GOVERNING THE FREE ZONE OF PUERTO DE LA PLATA.

The "Boletín Oficial" of September 24, 1908, contains the full text of the regulations governing the handling, storage, and transit of merchandise in the free zone of Puerto de la Plata. Puerto de la Plata is 35 miles southeast from the city of Buenos Aires. The district along and in the vicinity of the docks is comprised in the free zone.

The law making Puerto de la Plata a free zone provided that merchandise imported through that port should be free of customs duties and internal Federal taxes, but subjected it to storage charges if deposited in the Federal warehouse, and when so deposited prescribed its classification into groups. Industrial operations may be effected, factories founded, and permits given for the establishment of private warehouses in the free zone.

Articles manufactured or introduced into the free zone may be re-exported at any time, but merchandise sent from the free zone into other parts of the Republic is subject to the tariff laws and Federal taxes in force at the time the shipments are made.

CONSTRUCTION OF NEW RAILWAYS.

For the purpose of developing the national territories, the Congress of the Argentine Republic has provided for the construction, by the administration or through contract with private persons, of the following railroads: From Port San Antonio, Territory of Rio Negro, to Lake Nahuel Huapi; from Port Deseado, to connect with the line from Port San Antonio, a road that will pass through San Martin Colony, with a branch to Comodoro Rivadivia, passing through Sarmiento Colony, and with branches to Buenos Aires and Colonia Diecisiete de Octubre; from Port Barranqueras, on the Parana River, to connect with the Northern Central Railway at the most convenient point, with a branch line from Anatuya to Chaco; from Formosa to Embarcación, and such other branches as may be desirable.

The building of these railways will necessitate the expenditure of some \$25,000,000, which the President of the Republic has authority to obtain by means of a bond issue.

In addition to the railway construction contemplated, Congress has authorized the expenditure of \$3,850,000 in the improvement of fluvial navigation and the making of plans for the betterment of Atlantic port facilities. This amount is to be expended as follows: Pilcomayo River, \$100,000; Bermejo River, \$800,000; Santa Cruz and Chubut rivers, \$450,000; Negro River, \$2,000,000; Colorado River, \$250,000; and plans for the improvement of Atlantic ports, \$250,000.

UNDERGROUND ELECTRIC LINE IN THE CAPITAL.

Deputy Mitre, the author of the new railroad law now in force, has presented to the Argentine Congress a project of law for an underground electric railroad from the terminus of the Western Railway to the center of the city.

This project authorizes the Executive to construct such a railway from the port of the capital to Calle Sadi Carnot, the lines running under the Avenida de Mayo and Calle Rivadavia to the Plaza Once de Setiembre, and containing two or three stations en route.

The Executive will be authorized to contract for the construction of the work with the Western Railway, which will submit the plans to the Executive. The lines are to be constructed on account of the Government, the railway furnishing the capital, the Government paying 5 per cent interest on the outlay during construction. The railway will also exploit the work, and until a dividend is paid the railway and the Government will divide the losses. When the underground railway pays a dividend the profits will likewise be divided equally between the Government and the Western Railway.

The portion belonging to the Government will be first used in paying off any losses incurred in the initial working, and later in the amortization of the capital employed in the construction. The Western Railway will manage the underground railway. When the whole of the capital has been paid off the Government shall receive 90 per cent of the net receipts and the railway company 10 per cent.

The concession shall be for not less than fifty years, and when the capital is amortized the company shall have the preference of working the road for another twenty years, at the end of which time they have the right to rent the underground railway should the Government decide not to work it on its own account.

ESTABLISHMENT OF A GLUCOSE FACTORY.

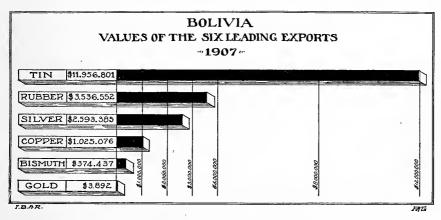
One of the new industries of the Argentine Republic is the manufacture of glucose, the first factory for this purpose having recently been opened at Baradero, district of Buenos Aires. The enterprise, which is financed by Argentine capital, promises to be a growing and profitable one, inasmuch as there is an abundance of cheap and excellent raw material, such as corn and wheat, at the very door of the establishment, and the demand for this product in the Republic is constantly growing. The imports of glucose from 1900 to 1905 amounted to 4,096 kilograms, a considerable increase in the imports of this article having occurred from year to year. In 1906 the imports amounted to over 2,000 kilograms of glucose, and during the first half of 1908 they rose to 1,330 kilograms. A duty of 0.027 peso per kilogram is levied at the present time on these imports. This enables the domestic product to compete advantageously with and even to undersell at a profit the foreign product.



COMMERCE AND INDUSTRY IN 1907.

In the report presented to the Bolivian Congress by the Minister of Finance and Industry, covering the operations of his department for the year 1907, the total trade value of the Republic is given as Bs. 88,229,159 (\$35,291,600) as against Bs. 90,741,841 (\$45,370,900) in the preceding year. Exports for the two years figured for Bs. 50,331,548 (\$20,132,600) and Bs. 55,654,515 (\$27,827,258), respectively, and imports for Bs. 37,897,610 (\$15,159,000) and Bs. 35,087,325 (\$17,543,662).

While the figures for 1907 show a decline in general results as compared with those of the preceding year, the total is greater than that reported for any year between 1900 and 1905.



The values of the six leading articles shipped abroad are reported as follows:

	Dollars.	Bolivianos.
Tin Rubber Silver Copper Bismuth Gold	11, 956, 801 3, 536, 552 2, 593, 385 1, 025, 076 374, 437 3, 892	29, 892, 003 8, 841, 380 6, 483, 463 2, 562, 692 936, 093 9, 730

Tin, the leading item of Bolivian export, was affected by the general financial crisis prevailing throughout America, and exports of barrilla declined to 27,677,780 kilograms or by 1,695,757 kilograms, as compared with 1906, the same conditions being noted in the case

^a In consequence of the change in the value of the *boliviano*, reduction for 1906 is made on the basis of \$0.50 and for 1907 of \$0.40.

of copper. Later developments have, however, been more favorable to these two mineral products. Silver, in spite of adverse conditions, increased its output, and the outlook is for a continued advance in production and value.

Rubber ranks next to its minerals on the export list of Bolivia, being shipped to the amount of 1,830,513 kilograms, or over 2,000 tons.

The points of entry for the merchandise received from abroad and the values taken by the various custom-houses are thus reported:

La Paz	Bolivianos. 13, 112, 760, 43	Bolivianos.
Uyuni Tupiza Tarija Villa Bella Abuná Puerto Suarez Iténez Antofagasta (agency) Arica (agency)	518, 504, 45 2, 915, 918, 60 1, 840, 351, 00 1, 025, 132, 00 855, 980, 79 62, 268, 06 1, 004, 207, 20 97, 460, 30 15, 984, 040, 32	1, 949, 237. 67 116, 560, 95 369, 216. 04 219, 487. 85 236, 310. 27 263, 216. 27 24, 702. 88 215, 064. 87 15, 968. 30 3, 736, 695. 47 148, 110. 58

Duties collected on exports for the year are given as Bs. 2,218,848.10, making the total customs receipts aggregate Bs. 9,513,419.10, or \$3,805,300.

The advancing trend of Bolivian trade is shown by the fact that in the three years 1896–1899 the annual average of foreign commerce was Bs. 37,251,785.38; in 1900–1903 it had risen to Bs. 46,785,048.52, while from 1904 to 1907 a yearly average of Bs. 75,375,850.08 was maintained.

BUDGET FOR 1909.

The revenues of the Republic of Bolivia as estimated in the budget for 1909 amount to Bs. 15,709,608 (\$6,283,800), consisting of receipts from Federal taxes of Bs. 13,374,045, and departmental taxes to the amount of Bs. 2,335,563, or Bs. 5,379,461 (\$2,151,700) less than that of the previous year.

The decrease in the estimated revenues is said to be due to the financial depression existing in the United States, causing a lessening of the commercial and industrial operations of Bolivia, to an excess of imports in 1907, and the fall in the prices of the principal articles of export of the Republic. The value of Bolivian products is now increasing in the markets of the world, and indications point to a favorable average of prices for native commodities in 1908 as compared with the latter part of 1907. Taking all these causes into consideration, a conservative estimate of the receipts for 1909 has been made.

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SOURCES OF REVENUE.

Customs receipts and export duties have been calculated as 71 per cent of the total revenues, and 29 per cent of the receipts have been estimated to come from internal taxes and other sources. The receipts from the custom-house at Antofagasta, Chile, have been calculated at Bs. 3,200,000 (\$1,280,000), as compared with Bs. 3,800,000 (\$1,520,000) in 1907. The imports through Arica are increasing daily, and the revenues from that port for the coming year are estimated to be Bs. 200,000 (\$80,000). The inauguration of the Viacha-Oruro Railway has set in motion a grand current of Bolivian commerce through the port of Mollendo, Peru, and has consequently greatly increased the business of the custom-houses at La Paz and Oruro. The estimate of the receipts from the custom-house at Uyuni decreased about 2 per cent, leaving the revenues from this source Bs. 320,000 (\$128,000). The towns of Tarija and Tupiza, owing to the extension of the Central Northern Argentine Railway, are showing much commercial activity, and the receipts from these custom-houses are estimated at Bs. 250,000 (\$100,000) and Bs. 400,000 (\$160,000), respectively. A fall in the price of rubber has decreased the commerce of Beni for 1908, but indications point to greater activity at the custom-houses of Villa Bella, Villa Rica, and Cobija, and the estimate in the budget from these sources is Bs. 400,000 (\$160,000). An increase in the commerce of Puerto Suarez and San Matías is noted during the present year.

The budget shows a decrease in the estimate of the receipts from export duties of Bs. 1,409,000 (\$563,600), the amount of these duties being placed at Bs. 2,307,500 (\$923,000). The estimate of the receipts from the exports of silver ores remains unchanged, having been fixed at Bs. 50,000 (\$20,000). Tin, which has suffered most in the late crisis, is estimated to produce Bs. 1,300,000 (\$520,000), as compared with Bs. 2,500,000 (\$1,000,000) in the previous year. Receipts from bismuth are fixed at Bs. 40,000 (\$16,000).

EXPENDITURES.

The estimate in the budget of the total disbursements for 1909 is Bs. 13,368,045 (\$5,347,200), or a slight excess of receipts over expenditures.

AUTHORIZATION OF LOAN OF £500,000.

The Congress of Bolivia has authorized the President of the Republic to negotiate a loan of £500,000, the interest and accumulated sinking fund in connection with same not to exceed 8 per cent annually. The proceeds of this loan are to be applied as follows: £300,000 to the payment of the existing bonds of the State and to the extinguishment of the internal amortizable debt of the Republic; £100,000

to the construction of school buildings in the capitals of the Departments, and £100,000 to the construction of jails and buildings for the use of the courts. The fund for the redemption of this loan shall consist of a tax of 2 per cent on the issue of bank notes; the proceeds from the stamp tax on cigars, cigarettes, and other forms of tobacco, less 10 per cent; receipts from taxes on mortgage drafts, and other revenues of the Republic.

POSTAL, TELEGRAPH, AND RAILWAY STATISTICS.

The Bolivian Department of Public Works (Fomento), in a report made to Congress on August 6, 1908, furnishes interesting statistics concerning post-offices, telegraphs, and railways in the Republic, as

POSTAL TRANSACTIONS.

The postal transit dues paid to the Argentine Republic and to Peru in 1907 were Bs. 1,279 (\$510), and Bs. 4,005 (\$1,600), respectively. With respect to Chile the transit dues for 1906 and 1907 have not yet been computed.

In 1907 the transactions in international money orders were as follows: Money orders issued in Bolivia, payable in the United States, \$1,314; issued in the United States, payable in Bolivia, \$660; issued in Bolivia, payable in Chile, \$1,190; issued in Chile, payable in Bolivia, \$463; issued in Bolivia, payable in Germany, 1,111 marks (\$275); issued in Germany, payable in Bolivia, 601 marks (\$150); issued in Bolivia, payable in France, 24,062 francs (\$3,800); issued in France, payable in Bolivia, 3,790 francs (\$750).

The domestic postal orders issued in 1907 numbered 26,832, and represented a value of Bs. 1.019,439 (\$407,700). Sales of stamps during the same period aggregated Bs. 225,455 (\$90,100).

TELEGRAPH SYSTEM.

The telegraph system of the Republic comprises 5,512 kilometers (3,423 miles) of wires, 4,320 kilometers (2,683 miles) of which belong to the State. The receipts from the telegraph service in 1907 amounted to Bs. 167,631 (\$67,000).

RAILWAYS.

Railway construction in Bolivia increases from year to year. One of the principal lines which has recently been completed is that from Viacha to Oruro, which places the Andean tableland in railway communication with the Chilean port of Antofagasta. This railway passes through some of the richest mining zones and agricultural lands of the Republic. In 1904 there were 724 kilometers (450 miles) of railways constructed, as compared with 936 kilometers (581 miles) in 1907. The lines at present under construction in Bolivia comprise an extent of about 2,200 kilometers (1,366 miles).



TREATIES AND CONVENTIONS.

The ratifications of the Treaty signed at Rio de Janeiro May 5, 1906, by the Plenipotentiaries of Brazil and Holland, fixing the boundary line between Brazil and Dutch Guiana, were exchanged at The Hague September 15, 1908.

The Treaty stipulates that the boundary line between Brazil and Dutch Guiana shall follow along the highest elevation of land which separates the waters flowing south into the Amazon and those flowing north into the Atlantic Ocean. A mixed Commission will be appointed by the two Governments to proceed to the demarcation of the line. All controversies that may arise during the demarcation are to be submitted to the decision of the Permanent Court of Arbitration at The Hague.

The General Arbitration Treaty signed at Rio de Janeiro September 7, 1905, between Brazil and the Argentine Republic, was ratified by the Brazilian Government October 1, 1908. It has been approved by the Argentine administration and recently by the Argentine Senate. Its final ratification will be complete with the approval of the lower house, which will probably be given at the special session about to be held.

By a decree of September 28, 1908, the Government of Brazil has approved the agreements concluded between Brazil and other powers for the establishment at Paris of an International Bureau of Public Health and for the creation at Rome of an International Institute of Agriculture.

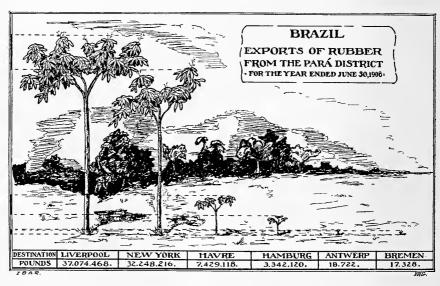
RUBBER SHIPMENTS FROM PARA.

The following statement shows the quantity of rubber exported from the district of Para during the year ended June 30, 1908, in kilos of 2.2 pounds, according to the report of the United States consul at Para:

Description.	To the United States.	To Europe.	Total.
Fine Medium Coarse Caucho	Kilos. 7, 086, 966 1, 501, 987 4, 414, 167 1, 655, 160	Kilos. 11, 158, 327 1, 890, 246 3, 452, 788 5, 263, 165	Kilos. 18, 245, 293 3, 392, 233 7, 866, 955 6, 918, 325 36, 422, 806

The exports of rubber from the several ports in the Para district to the United States and Europe according to ports of destination for the same period were as follows:

From and to.	Fine.	Medium.	Coarse.	Caucho.	Total.
To New York from— Iquitos Manaos Para	Kilos. 23, 292 3, 775, 718 3, 287, 956	Kilos. 536 881, 259 620, 192	Kilos. 14,544 1,169,816 3,299,807	Kilos. 4,823 1,130,894 519,443	Kilos. 43, 195 6, 957, 687 7, 657, 398
Total	7,086,966	1,501,987	4, 414, 167	1,655,160	14, 658, 280
To Liverpool from— Iquitos	338, 601 3, 171, 152 31, 688 4, 702, 196	424, 558 749, 231 1, 846 416, 784	274, 577 864, 869 22, 733 1, 671, 021	349, 668 2, 473, 389 7, 766 1, 351, 952	1, 387, 404 7, 258, 641 64, 033 8, 141, 953
Total	8, 243, 637	1,592,419	2,833,200	4, 182, 775	16,852,031
To Hamburg from— Iquitos Manaos Itacoatiara Para	52, 280 585, 700 1, 777 294, 806	7, 288 41, 966 150 19, 188	16,803 134,942 167 89,651	36, 025 251, 134 220 37, 094	112, 396 963, 742 2, 314 440, 739
Total	884,563	68,592	241, 563	324, 473	1,519,191
To Havre from— Iquitos	270, 971 1, 452, 197 48, 422 244, 977	98, 001 116, 949 1, 775 11, 690	133, 315 152, 350 28, 191 62, 457	450, 611 277, 212 11, 262 16, 492	952, 898 1, 998, 708 89, 650 335, 616
Total	2,016,567	228, 415	376, 313	755, 577	3, 376, 872
To Bremen		820	1,362 350	340	7, 922 8, 510
Grand total	18, 245, 293	3, 392, 233	7, 866, 955	6, 918, 325	36, 422, 806



The stock of rubber left on hand on June 30, 1908, was 43,819.4 metric tons.

Brazil. 1071

The actual state of the industry in the country is indicated by the fact, related in the annual report of the minister of finance, that the value of the exports of seringa rubber during the first three months of 1907 was \$25,943,547, while the value of the exports of this variety during the first three months of 1908 was \$16,443,566—a difference of \$9,499,981 on that variety in a single quarter.

COFFEE OUTPUT IN 1908.

The following information concerning the Brazilian coffee output in 1908 has been furnished by the United States minister at Rio de Janeiro:

The shipments of coffee from Brazil during the crop year ending June 30, 1908, were as follows, in bags: Rio de Janeiro and Minas, 3,761,296; Santos, 8,456,017; Victoria, 482,553; Bahia, 230,051; other ports, 23,655; total shipments, 12,953,572.

This total compares with 12,782,723 as the average shipments from Brazil for the past eight crop years. The visible supply on June 30, 1908—14,567,285 bags—was only about 2,000,000 bags less than a year ago at the wind up of the immense crop of that season. Most significant perhaps of all is the fact that the entries of coffee at Rio de Janeiro and Santos during July and August, 1908, are almost as large as during the great crop of 1906–7, and at Victoria and Bahia larger. While the prospect of additional tax in São Paulo renders the situation somewhat abnormal, there is no doubt but that present indications are for a very large crop during the current season.

Of the shipments during the past season, 57 per cent went to European ports, 41.7 per cent to American ports (including South American ports), 1 per cent to Africa, and 0.3 per cent to Asia and Australian ports. Much of the coffee sent to Europe, however, was for consumption in other parts of the world. Of the shipments of coffee to the United States two-thirds went to New York, as usual. The record for the past three years has been as follows, in bags:

To-	1905–6.	1906–7.	1907-8.
New York New Orleans Baltimore Charleston San Francisco New York, opiion New Orleans	1, 492, 145 80, 500 17, 550	4, 493, 810 1, 776, 639 28, 000 12, 003	3, 334, 712 1, 791, 626 10, 000 108
Total	4,853,518	6, 310, 452	5, 136, 446

The port of San Francisco appears in the list of ports of direct shipments for the first time. The shipment noted in the figures given was made by way of the Straits of Magellan to Valparaiso, thence trans-shipped for the trip up the west coast.

The valorization of coffee enterprise, whereby the State of São Paulo, with more or less assistance from the States of Rio de Janeiro and Minas Geraes, has purchased about 8,400,000 bags of coffee from the immense crop of 1906–7, with a view to holding the surplus of that year for disposal in other seasons when the crop may be small, and thus to maintain prices, is giving way to or being merged into a new proposition which has been put forth officially by the President of the State in a message to the legislative assembly of São Paulo on August 10.

While officially claiming that valorization has maintained the price of coffee, the financial situation engendered by it is frankly faced by the São Paulo Government, and the necessity of the loan and the new tax presented.

HIDE EXPORTS FROM RIO GRANDE DO SUL.

In the returns of exports of hides from Rio Grande do Sul for the first six months of 1908, the record is the smallest for six years, as appears from the following table (no salted hides going to the United States):

	Salted	Dry 1	aides.	
Year.	hides— Europe.	Europe.	United States.	Total.
1903 1904 1905 1906 1907 1907	314, 713 401, 447 278, 110 298, 050 367, 811 331, 617	157, 591 136, 403 185, 377 150, 499 140, 336 88, 549	5, 985 23, 136 8, 571 9, 000 10, 000 7, 000	478, 289 560, 986 472, 058 457, 549 518, 147 427, 166

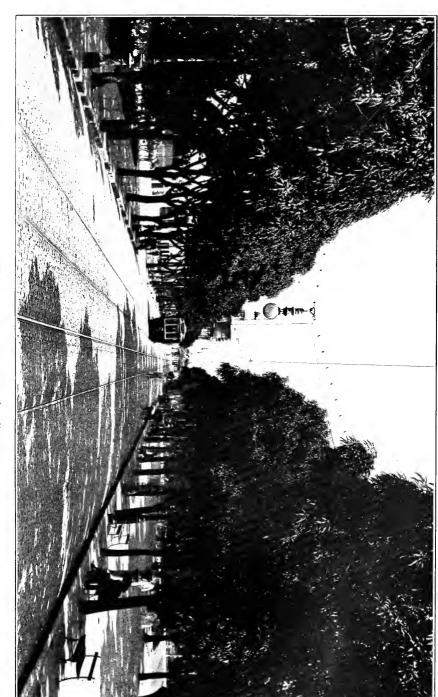
The number of hides sent to the United States is the smallest since 1903, while the falling off in total exports, due notably to the decreased shipments of dry hides to Europe, is less than the total for many years. Exports of tallow, beef, bones, and hair show a corresponding decrease for the half year.

ELECTRIC RAILWAY LINE IN THE CAPITAL.

On August 20, 1908, the formal inception of the new electric railway line to connect Petropolis with Rio de Janeiro was made, with the driving of the first stake.

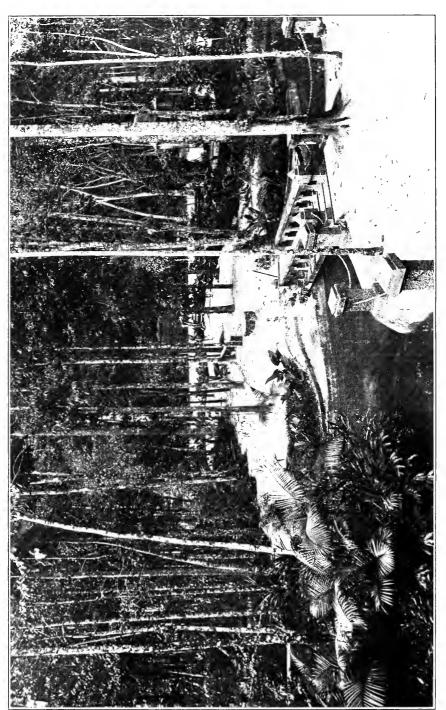
The line is to pass around a portion of the bay of Rio de Janeiro, to cross that body of water by means of bridge connections, and then ascend a mountain on the other side to a distance of nearly 2,800 feet.

The initial station will be at the foot of the Avenida Central, and the trip to the terminus will take about one hour and twenty minutes, the distance to be traversed being 37.2 miles.



PRACA DO REPUBLICA, BELEM (PARÁ), BRAZIL.

This magnificent boulevard in the capital of the Province of Pará, a substantial and modern city advantageously situated near the entrance to the Amazon River, and only 100 miles south of the equator, is lined with fashionable residences and numerous parks. At night it is profusely illuminated with electric lights. The Theatro da Paz, built of white marble, and one of the largest and finest structures of its kind in South America, faces the boulevard.



A VIEW IN THE MUNICIPAL PARK, BELEM (PARÁ), BRAZIL.

This marvelous section of Amazon forest was reserved as a public park by the municipality of Belem when the expanding city commenced to encroach on the surrounding country. Greenhouses, booths, cascades, lakes, fountains, and other artistic embellishments have been added, and at night its area is lighted by electricity. The "Bosque," as it is called, is a source of much pride to the people of the city.

BRAZIL. 1073

The old service between the capital and Petropolis, which is the fashionable suburb of Rio de Janeiro, was either by ferry across the bay and thence by rail to the top of the mountain range, the trip occupying two hours, or by an all-rail route around the bay and up the mountain, taking a half hour longer.

The new line is under Brazilian organization and is to cost \$1,800,000, and according to the requirements of the concession obtained from the Government must be completed within four years.

EXPRESS STEAMSHIP SERVICE WITH EUROPE.

The steady development in the tonnage and speed of vessels plying between Europe and South America, which has been going on for the past two and a half years, is further exemplified in new ships which have just made or are preparing to make their first trips to Brazil. The consul-general of the United States in Rio de Janeiro reports that both British and Italian companies in the South American trade are increasing their fleets and, moreover, they are improving them both in the size of the vessels and in the speed of these vessels. The situation is indicated by the fact that in the middle of September two new vessels entered the port from Europe, each of which made the trip out in an average of over 17 knots per hour. One of these vessels was the *Orcoma*, of the Pacific Steam Navigation Company, which makes the trip from Liverpool to Valparaiso, Chile, by way of Rio de Janeiro and Montevideo.

It is of the type of the latest fast ships from the north of England in the South American service, 510 feet long with a tonnage of 11,532, has quadruple balanced engines, developing 8,500 horsepower, and accommodations for 250 first-class, 220 second-class, 120 intermediate, and a large number of third-class passengers. All the fittings in the accommodations for all classes of passengers are of the latest models, the conveniences are of the most modern sort, and the ship is in general a fine example of a modern passenger express vessel.

The other vessel was the *Re Vittorio*, of the Navigazione Generale

The other vessel was the *Re Vittorio*, of the Navigazione Generale Italiana, which is making the run from Genoa to Buenos Aires by way of Rio de Janeiro. It is one of six of the same model which its company are now putting out; two of these ships have already entered the service, and the third will soon be on its way out.

The $Re\ Vittorio$ is a vessel of 11,000 tons, which can develop a speed of $19\frac{1}{2}$ knots per hour, and whose schedule calls for $17\frac{1}{2}$ knots. The vessel has accommodations for 84 first-class, 102 second-class, and 1,200 third-class passengers, and on her first trip out carried 1,384 passengers in all.

At the present rate of development, the tonnage and average speed of vessels between Europe and Brazil for the second half of the current year will show an increase of fully 20 per cent in the former and 12 per cent in the latter on an average over the record for the first half of the current year, which in itself has gone beyond all records.

REBATES ON FREIGHT RATES.

As a result of a recent conference in Hamburg between representatives of the several lines concerned, the following notice, signed by the Royal Mail Steam Packet Company, the Hamburg-South America Line, the Hamburg-America Line, the Norddeutscher Lloyd, the Prince Line, and Lamport & Holt, has been issued:

Shippers of coffee at ——— are hereby notified that, subject to the conditions hereinafter expressed, the undersigned lines will pay the following rebate of freight on coffee shipped by their respective steamers to the ports of Antwerp, Amsterdam, Rotterdam, and the rivers Weser and Elbe, and to ports in the United States of America, during the year beginning the 1st of September, 1908, and ending August 31, 1909, and thereafter year by year until further notice, viz:

Five per cent (5 per cent) for shipments up to 100,000 bags and one-quarter per cent ($\frac{1}{4}$ per cent) more for every additional 10,000 bags up to a maximum of ten per cent (10 per cent) for 300,000 bags or over.

The rebate to be paid to each shipper will be computed every twelve months, say up to August 31 in each year, on his total shipments by the combined lines and be payable six months afterwards, but only to shippers who have up to such due date of payment confined their shipments of coffee to Antwerp, Amsterdam, Rotterdam, and the rivers Weser and Elbe, and to ports in the United States to the undersigned lines.

No rebate will be paid on freight on sample lots, nor on additional freight charged for delivery at post-terminal destinations of goods shipped on through or optional bills of lading.

A statement of rebate claim must be made on a form as annexed and presented within three months succeeding the date on which payment falls due to the agents of the company which has carried the merchandise in respect of which the rebate is claimed.

Until further notice any shipments by steamers of the National Brazilian Line, under the Brazilian flag, to the United States and of the Koninklijke Hollandsche Lloyd to Amsterdam at not under conference rates of freight and conditions will not prejudice shippers' claims of rebate.



NITRATE INDUSTRY IN 1908.

The Chilean Nitrate Association has published the figures relating to the exploitation of the nitrate industry during 1908, reporting for the first six months of the year a total production of 21,108,115 quintals of 101 pounds each (about 1,000,000 tons), while exports of the product amounted to 21,275,051 quintals. A production increase of about 2,000,000 quintals (100,000 tons) is noted, and an advance of over 4,000,000 quintals (200,000 tons) in exports as compared with

CHILE. 1075

the corresponding period of 1907. Total shipments in 1907 aggregated over 2,000,000 tons.

The nitrate year is estimated as from April to April, so that the returns for six months cover the industry up to the end of September, 1908.

MODIFICATION OF MINING TAX.

The "Diario Oficial" of July 16, 1908, contains the text of the Chilean law authorizing the collection of federal and municipal taxes and the modification of the mining tax. The Chilean mining code establishes three classes of mines, namely: (1) Gold, silver, copper, and similar mines, the acquisition of which is free; (2) coal mines and mines containing similar fossils; and (3) mines containing minerals situated on uncultivated State or municipal lands. Gold, silver, copper, and similar mines are subject to a tax of 10 pesos (\$3.50) per hectare, and coal mines and mines containing similar substances, which formerly paid a tax of 5 pesos (\$1.75) per hectare, now pays 20 centavos (\$0.07) per hectare.

PUBLIC DEBT STATEMENT.

According to a statement recently made on the floor of the House of Deputies at Santiago the public debt of Chile on December 31, 1907, was as follow:

The amount was \$132,316,473 United States gold, of which \$24,038,654 covered the internal debt at the present rate of exchange. To this may be added \$116,879,387 authorized by Congress for public improvements, which must be met within the next five years. This internal debt covers the paper currency issued by the Chilean Government, which, if redeemed at its face value, would mean \$48,077,308 United States gold in excess of the value of the redemption bonds held to cover a portion of the currency, and would increase the public debt by \$24,038,654. To redeem the paper currency of Chile there is now on deposit in European and American banks about \$25,000,000 United States gold. These deposits are drawing interest and will be available for the purpose specified on and after January 1, 1910.

ESTIMATED REVENUES FOR 1908.

The estimated revenues of the Chilean Government for 1908, based on the receipts of the first half of the present year, are 210,387,083.37 pesos (\$75,739,000). The total expenditures of the Government for 1908, according to the budget, are 203,625,478.37 pesos (\$73,305,000), which shows an excess of receipts over expenditures for the year mentioned of 6,761,605 pesos (\$2,434,000). The duty on nitrate, which amounts to 62,200,000 pesos (\$22,392,000), is the largest single item of the estimated revenues.

TOBACCO TRADE OF THE REPUBLIC.

United States Consul Alfred A. Winslow, of Valparaiso, states concerning the trade in tobacco in Chile that during 1907 there were imported into the Republic 1,103,957 pounds of tobacco in its various forms, against 980,139 pounds for 1906. In each case cigars and cigarettes are included. The following statement shows the imports from the several countries for the past three years in United States currency:

Countries.	1905.	1906.	1907.	Countries.	1905.	1906.	1907.
United States	65, 387 14, 930	\$2,722 67,930 21,769 8,541 7,320	\$10,653 84,266 30,534 20,254 18,983	Spain Mexico Ecuador Holland Bolivia		1,322 248	. \$2,062 756 629 252
Italy	11, 180 32, 090 239	9, 691 42, 298 188	8,657 4,371 2,228	Brazil		162, 490	183, 645

The United States stands fifth.

The duty on tobacco varies from 95 cents gold per kilogram of 2.2 pounds, to \$1.82 per kilogram; \$2.19 per kilogram for cigars, and \$3.28 per kilogram for cigarettes.

There is some very good tobacco raised in Chile, but it will be some years before enough is raised to supply the growing demand. The consumption is on the increase.

BRIDGE CONSTRUCTION.

The Director General de Obras Publicas has just made public the statement that the Chilean Government has 28 bridges of different classes under construction at a total cost of \$1,017,510 United States gold, with 31 more under consideration at a total cost of \$1,390,103 United States gold.

Plans and specifications are now in course of preparation for many of these bridges. Many of them are to be of steel construction. In Chile it is the general Government that builds all bridges of importance, so all communications relative to these matters should be addressed to the official mentioned, at Santiago.



LAWS GOVERNING MEDICINE AND PHARMACY IN THE REPUBLIC.

From the United States Consul-General at Bogota, Colombia, Mr. Jay White, a valuable report on the practice of medicine, pharmacy, and kindred subjects in the Republic has been received.

It is stated that physicians, dentists, and surgeons holding the degree of doctor of medicine granted by foreign faculties of recognized competence may, without further examination, practice their respective professions, and that foreigners not possessing the degree may obtain leave to practice by submitting themselves to an examination by the Faculty of Medicine of the University of Bogota.

In the national and departmental schools a period of six years' study is required for the reception of the degree of doctor of medicine or surgery, and diplomas for the practice of homeopathic medicine are only issued to individuals holding certificates showing that they have passed the studies of the first year in the course of medicine, anatomy, physiology, and pathology.

Pharmacists are required to furnish certificates from a medical faculty or proof of two years' practice in well-known pharmaceutical establishments before a permit for the establishment of a pharmacy is granted.

The sale of drugs is subject to police regulations.

There are few foreign physicians or dentists practicing in the Republic, the field being well filled by Colombians who have taken their degrees in local colleges or in the United States and Europe.

Three medical schools are located in Bogota, Medellin, and Cartagena, respectively, while hospitals are found in many of the cities under both private and public administration.

LEADING EDUCATIONAL INSTITUTIONS IN THE REPUBLIC.

Under the provisions of a decree recently issued by the Minister of Public Instruction, of Colombia, diplomas issued by the following colleges and universities will be recognized officially by the Department of Public Instruction; University of Bogota; University of Antioquia, at Medellin; College of Boyaca, in Tunja; University of Popayan; University of Bolivar, at Cartagena; National and Departmental Institute, of Pasto; College of Santa Librada, of Neiva; College of San Simón, of Ibague; Colegio Dental, of Bogota; Academia Nacional de Musica, at Bogota; Escuela Nacional de Bellas Artes, at



MEDICAL SCHOOL, BOGOTA, COLOMBIA.

Professional institutions of learning in Bogota include schools of natural science and medicine, political science and law, dentistry, and engineering. The course of study is six years, on completion of which the student receives his degree, and is then eligible to practice his profession in any section of the country.

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Bogota; normal schools established by the Government; Beethoven Academy, of Bogota; Colegio Mayor de Nuestra Señora de Rosario:



A DENTAL OFFICE IN BOGOTA, COLOMBIA, SHOWING AMERICAN EQUIPMENT.

The professions are exercised in Colombia mostly by citizens of the Republic who have taken degrees in local colleges or pursued courses of study in the United States or Europe. There are very few foreign dentists practicing in the country.

the colleges of the country directed by the Society of Jesus; Institute of the Christian Brothers (Hermanos Cristianos).



EXPORT TAX ON BANANAS.

On October 28, 1908, the President of Costa Rica promulgated a decree imposing an export tax of 1 cent a bunch, American gold, on bananas exported from the Republic until October 29, 1920, the United Fruit Company having previously renounced the free exportation granted it on October 29, 1900. During the period referred to the banana industry shall be subject to no other tax of any kind, and is likewise exempt from police and municipal taxes.

. Should the United Fruit Company, or any person or company representing or succeeding that company, fail, at any time during the course of the twelve years specified, to pay to the present banana raisers or their successors in the banana plantations, or to those who in future solicit contracts in accordance with paragraph b of this law. of their successors on the plantations, 31 cents American gold for each first-class bunch of bananas—that is to say, for each bunch that has 9 or more well developed small bunches on the stem, and 15½ cents American gold for each second-class bunch of bananas—that is to say, for each bunch having less than 9 and more than 6 small bunches to the stem—then this law shall cease, ipso facto, to be effective, and without the necessity of any notice whatever. If on increasing the present area of banana cultivation the United Fruit Company, or its representatives, successors, or assigns, should fail to give to the owners of the lands thus increased at least 45 per cent of the new areas placed under cultivation, then this law shall cease to be effective.

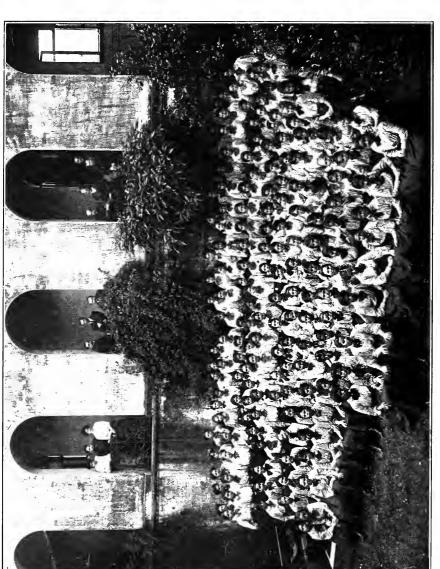
REGULATION OF CATTLE DUTIES.

On October 22, 1908, the Congress of Costa Rica decreed that on and after January 1, 1909, all cattle imported will be free of duty and that hereafter no bounty will be paid by the State on cows and heifers brought into the Republic. The State will, however, continue to pay the maritime and land freight until December 31, 1911, on fine breeds of cows and bulls imported from Europe and the United States.

The exportation of fine cattle is now subject to an export tax of 25 colones (\$11.63) per head, but if the animal exported was brought into the Republic at the expense of the State the export tax shall be increased by the amount of the freight charges paid by the State because of the importation of said animal.



Very few countries surpass Costa Rica in natural scenic attractiveness. In its picturesque landscapes are embraced the crystal waters of mountain streams, leaping over huge granite bowlders in their course to the sea; rich and exuberant tropical growths; and luxuriant pasture lands at the foot of steep mountains and footbills; all combining to form scenes of exquisite beauty. RIOS CARACHO Y POAS, COSTA RICA.



GIRL'S HIGH SCHOOL, SAN JOSÉ, COSTA RICA.

Including the normal class, the enrollment of this school is about 185 pupils. There is a corresponding high school for boys, with 227 pupils. Higher education is served by a medical faculty, and schools of law, pharmacy, and dentistry. Public education in Costa Rice is fostered and maintained by the general government, about one-cighth of the annual budget being devoted to this cause. Elementary instruction is given in 386 schools, and is free and compulsory.

ELECTRIC TRAMWAY BETWEEN CARTAGO AND SAN JOSE.

The Government has authorized the Cartago Electric Light Company to import, free of Federal, State, and municipal duties, the necessary materials, supplies, and rolling stock for the construction and operation of an electric tramway between Cartago and San Jose. The electric-light company must raise the necessary capital within twelve months from the 16th of October, 1908, with which to build the line, and the work of construction must commence within eighteen months of the latter date, and be completed within two years from the date the building of the tramway was begun. A daily service sufficient to meet the needs of the traffic will be maintained. The freight and passenger tariffs of the tramway must be approved by the Government. The concession is for a period of fifty years.

FREE CUSTOMS ENTRY FOR FODDER.

The Congress of Costa Rica has enacted a law permitting the free entry of baled hay, bran, and other by-products of wheat, linseed, corn, and other cereals used for feeding cattle. The decree placing these articles on the free list was promulgated on October 22, 1908.

ANTIQUITIES IN THE REPUBLIC.

The "Evening Star," of Washington, for November 2, 1908, publishes the following account of native relics in Costa Rica:

Gold idols by the handful from Costa Rica, and plenty more there, is the attractive story of a young Austrian, EMILE MONSONYI, who visited the authorities at the Smithsonian Institution to-day. Mr. Monsonyi is a mining engineer, and has spent altogether about seven years in Costa Rica and the near-by islands. He journeyed to the mountains to look for minerals, and says he found them in plenty, but considers the Indians of the region much more interesting and potentially quite as valuable as the mines. Speaking of his experience to a "Star" reporter, he said:

"The Indians are a peculiar people, and they have had bad experiences with the whites. You have to know them well to get their confidence, and as long as you are honest with them they will treat you well and tell you as much of the inside history of their tribe as you want to know. But once they find that you have not acted honestly with them their confidence is gone forever. I had rather good fortune among them, and was able to locate a number of their burial places where there were idols and ornaments of gold. There is an immense amount more in the country, but of that I do not wish to speak now.

"The Indians bury their dead without anything to mark the spot, and they never bury their gold objects with the dead. They put into the grave objects of pottery and household effects, so that when the dead return they will be able to use them, or perhaps they think that the spirit of the utensil goes along with the dead, for they always destroy the usefulness of the pottery vessel by knocking a hole in it. Of the fabrics and wooden objects, it is impossible to tell what they do, as they are mostly destroyed by age when discovered.

"I brought back a few of the gold images with me, and might have gotten more. But I think that the Smithsonian Institution will be interested in making excavations. The Indians at present are very highly developed artistically, and some of their work is as good as anything that could be done in this country."

In proof Mr. Mosonyi produced the half of a gourd of very hard and smooth fiber. It is called "jicago" by the natives, and the work on it was executed by the Queches tribe of Indians. The outside of the gourd had been stained black and polished very highly. On this had been etched a medallion frame, and within the portraits of two Indians, the picture part of the etching being about 4 inches in greatest length. The design is a spiral, vine-line frame, inclosing a second frame of conventional Roman key. The picture inside of this is cross-hatched with the point of a needle. It is considered marvelously fine work, being almost as fine as a 68-line half-tone screen.

The gold objects, of which the explorer displayed a handful, were all small ornaments that might have been used as fetishes or personal decorations, or both. Some of them are in the form of human figures, some of conventionalized birds and animals, and all have in them one or two small rings by which they might have been suspended around a neck. Some are as much as 2 inches long and weigh several ounces, and others are scarcely more than half an inch long.

All of them had been cast hollow and finished with a graving tool or polisher on the obverse side. They were bright and clean, as though they had just been finished, but some of the experts of the Bureau of Ethnology thought that they might be genuine, as the form and the workmanship are characteristic of the authenticated native work of the region.

Mr. Mosonyi had scores of photographs of other objects taken from the grave caches, some of them of gold objects 4 inches long. The collection from one grave weighed in the aggregate a pound. One of the few specimens that unquestionably had been an ornament was a small gold pin with a head in the shape of a conventionalized animal.

Mr. Mosonyi says that he is going to England and thence back to Austria, his native country, and will subsequently return to the grave diggings of Costa Rica.



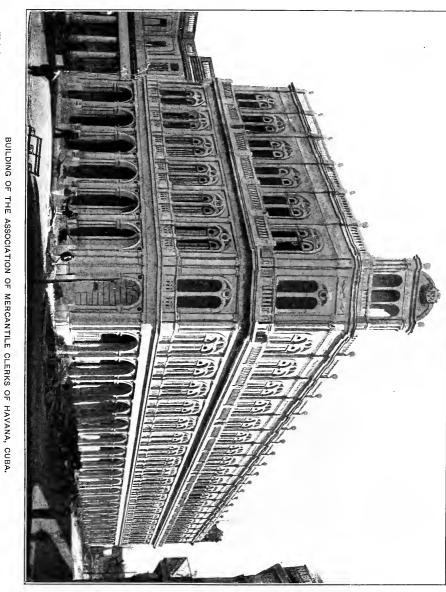
SUGAR PRODUCTION, 1907-8.

Official figures of Cuban sugar production for the season of 1907–8 fix the total production at 985,711 tons, a decline of nearly 500,000 tons as compared with the preceding year.

The amount of cane ground was over 10,000,000 tons, or about 4,000,000 tons less than in 1906–7, and the number of mills in operation was 168 against 184 in the former period.

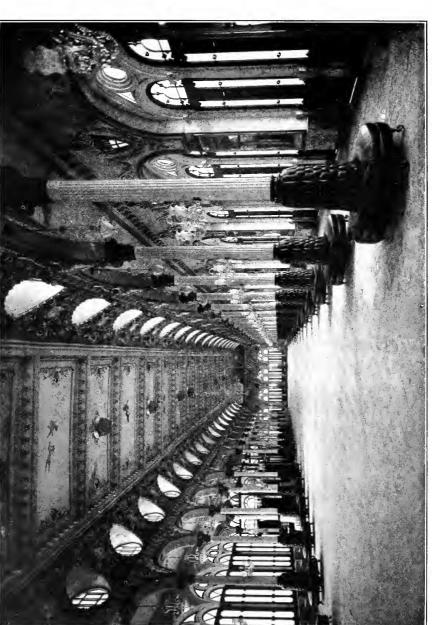
REPORT OF THE CUBA RAILROAD, 1908.

The annual report of the Cuba Railroad Company, Sir W. C. Van Horne, president, for the year ending June 30, 1908, shows gross



This handsome edifice was completed early in 1907, at a cost of \$582,550, the furnishing costing \$43,000 additional. The Association was organized in 1880 for the moral and material uplit for an important class of the population of Havana. From a membership of 500 persons at the end of a year, it has grown to nearly 25,000 members at the close of 1907. The beneficent work of the organization is systematized under six heads, viz. Charity, instruction, music, recreation, moral and material welfare, and promotion. The most important is the first named, which controls a vast hospital service, known as La Purísima Concepción, with modern handshifting a continuation of the controls and controls a vast hospital service, known as La Purísima Concepción, with modern handshifting a continuation of the controls a vast hospital service, known as La Purísima Concepción, with modern handshifting a continuation of the controls a vast hospital service, known as La Purísima Concepción, with modern handshifting a continuation of the controls a vast hospital service, known as La Purísima Concepción, with modern handshifting a continuation of the controls a vast hospital service, known as La Purísima Concepción, with modern handshifting a continuation of the controls a vast hospital service, known as La Purísima Concepción, with modern handshifting a continuation of the controls a vast hospital service, known as La Purísima Concepción, with modern handshifting a control of the controls a vast hospital service, known as La Purísima Concepción, with modern handshifting a control of the contr

buildings, equipment, and practice.



GRAND BALLROOM IN THE NEW ASSOCIATION BUILDING, HAVANA, CUBA.

This hall occupies the entire second floor of the building. It is admirably embellished and illuminated, and was especially planned for social functions. This feature receives amuch attention, being considered as essential as physical and mental training. Each year it has been the custom to hold five principal social events—one flower ball and four carnival balls—for which elaborate and costly preparations are made and thousands of invitations are issued.

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earnings of \$2,039,467.95 and operating expenses of \$1,318,180.36, the net earnings therefore figuring for \$721,287.59. The monetary surplus at the close of the year was reported as \$1,093,286.66.

Concerning conditions prevailing in the Republic, it is stated that the shortage of the sugar crop had its natural effect on the resources of the planters, but that the districts served by the line suffered but little. Growing crops are reported as most promising, and the cultivation of lands in the vicinity of the railroad is constantly extending, and new towns show satisfactory progress.

REGISTRATION OF PATENTS AND TRADE-MARKS.

Persons or corporations desiring to register a foreign trade-mark in Cuba, in order to insure its protection must make written application to the Ministry of Agriculture, Industry, and Commerce at Havana, inclosing a certified copy of the foreign registration duly legalized by the Cuban Consul in the country issuing the certificate. The registration fee is \$12.50 gold.

The same process is necessary in the registry of a foreign patent, in which case the fee is \$35 gold.

REGULATION OF THE PRACTICE OF PHARMACY.

In accordance with a decree promulgated by the Cuban Government on October 20, 1908, in conformity with the report of the National Board of Health and the adviser to the Sanitary Department, the following regulations governing the practice of pharmacy in the Republic are effective pending the compilation of a new code of ordinances:

The exercise of the profession of pharmacy, the commerce in drugs and medicinal preparations, the compounding of pharmaceutical specialties and the preparation and sale of serums and vaccine materials are placed under the immediate inspection and jurisdiction of the National Board of Health.

Every person duly authorized by the laws of the land to engage in commerce or industry, can establish and become proprietor of a pharmaceutical office or apothecary establishment, provided that such person complies with the requisite conditions and provisions which will be duly expressed in the pharmaceutical regulations, inscribing himself as owner in the mercantile register, under his own name, exercising in it all acts of ownership, provided that a graduated pharmacist of the University of Havana, or one indorsed by that institution, or otherwise authorized by law, personally performs or superintends all of the operations connected with the compounding and delivery of medicines, and the filling of prescriptions, who shall be held criminally responsible for whatever crime or fault in respect to the exercise of the profession of pharmacy may be committed, and the proprietor of the establishment will be also held subsidiarily responsible in the civil legal proceedings.

The compiling of a new code of pharmaceutical regulations or ordinances in accordance with present requirements will be immediately proceeded with, in order to regulate in a stable manner the exercise of this profession in conso-

nance with the modern conception of it, of the commerce in drugs, medicinal preparations, and of preparation and distribution of serum and vaccine materials.

Until the promulgation of the new pharmaceutical regulations, the present existing ordinances shall remain in force in all matters wherein they do not conflict with the execution of the requirements expressed in this decree.

The National Board of Health is authorized to create a corps of assistants in pharmacy, based upon a suitable corresponding technical examination and other requisites, which shall be specified in the regulations governing the exercise of the profession of pharmacy. These assistants or practitioners shall render their services in the manner and in the cases which will be specified in the above-mentioned regulations.

In order to carry out the provisions of this decree a credit of 2,000 is hereby appropriated from any disposable funds in the national treasury not affected by other obligations.

DISCOVERY OF SALT IN THE REPUBLIC.

The location of a valuable salt deposit in the Province of Matanzas is reported from Cuba and is regarded as of importance in the future economic development of the island. At the present time about 280,000 sacks of salt are imported annually, on which duty and port charges amount to $72\frac{1}{2}$ cents per sack, additional costs bringing the total up to $$1.44\frac{1}{2}$ each. The selling price in the Republic is approximately \$1.75 Spanish gold per sack.

The salt taken from the Matanzas mine is the pure product, and it is hoped to eventually make the output sufficient for the home market.

A tunnel 9 feet in diameter has been drilled into the mountain to a depth of 75 feet, starting at an elevation of about 200 feet above tide water, and a crushing plant is to be installed with a 450-foot cable for the lading of barges moored in the bay below the mouth of the Bacunayagua River, where vessels drawing 24 feet of water can find a safe harbor.



IRRIGATION IN THE REPUBLIC.

Concerning proposals of the Dominican Government to carry out irrigation enterprises, Consul Ralph J. Totten, of Puerto Plata, writes as follows:

The Yaque del Norte River has its course in a general northwestern direction from the province of La Vega, where it has its source, to Monte Christi Bay, where it flows into the sea. Twelve or fifteen years ago this river had three main mouths and several smaller ones. The largest of these was its present outlet at Monte Christi Bay. The others formed a delta to the southwest, all emptying into Manzanilla Bay. With the lower part of the river so divided, it was of absolutely no use as a means of transportation. The channels were so shallow that even the smallest boats were unable to enter any of them. It was finally decided to partially close the lower mouths by means of dams in order to throw a larger volume of water into the upper one. This branch was chosen because it passes near the town of Monte Christi, which is the most important seaport of this section. The experiment was entirely successful, and the Yaque is now navigable for medium-sized craft beyond the town of Guayubin.

However, one result was brought about that was totally unexpected. The increased flow of water deepened the channel, and in the course of a few years the shallow southern branches were left absolutely dry. This has caused an area of land of at least 400 square miles, formerly one of the most fertile spots in the Province, to become barren from lack of water. This tract extends from the territory watered by the Cano del Estero on the south, northward to Monte Christi Bay, and from the Yaque westward to Manzanilla Bay. It is comparatively level and would be very easy to get in proper condition for cultivation at a moderate expense.

The Dominican Government has become interested in this matter and has finally decided to build a series of irrigation canals to reclaim the tract from barrenness. The plan is entirely feasible and is almost certain of successful completion. The water is to be raised into a reservoir at the point where the old branches originally left the main channel. From that point, utilizing as much as possible the old river beds, which are only partially filled, as the main arteries of the system, the water is to be conveyed through the entire barren district by means of irrigation ditches.

There are at present five of the regular government engineers on the ground perfecting the plans for the proposed system. They have estimated the cost to the Government as approximately \$500,000, and if all goes right work is to be started immediately.

This land can be bought now at from \$2 to \$5 per acre. It is remarkably fertile and is especially adapted to the cultivation of cacao, sugar cane, and bananas, while in the higher parts coffee can be raised to advantage. The cultivation of the native and imported henequen, or sisal hemp, has been attempted with success in this locality. There is much good pasture land on which the raising of horses, cattle, and goats is a paying business.

NEW ISSUE OF SEALED PAPER.

A new issue of sealed paper for the term of two years from 1909 to 1910 has been ordered by the Dominican Government. This issue is to consist of 190,525 sheets of the different denominations of sealed paper, representing a value of \$172,650.



COMMERCE AND INDUSTRIES IN 1907.

A valuable résumé of Ecuadorian conditions in 1907 is furnished by the report of the United States Consul-General, Hermann R. Dietrich, stationed at Guayaquil, forming the latest complete data obtainable on the subject.

The total value of the country's foreign commerce during the year in reference is given as \$21,643,200, divided between exports, \$11,793,213 and imports, \$9,849,987. As compared with the preceding year, exports show a gain of \$102,970 and imports the remarkable increase of \$1,344,187, though the balance of trade still remains in favor of the country's shipments of native products.

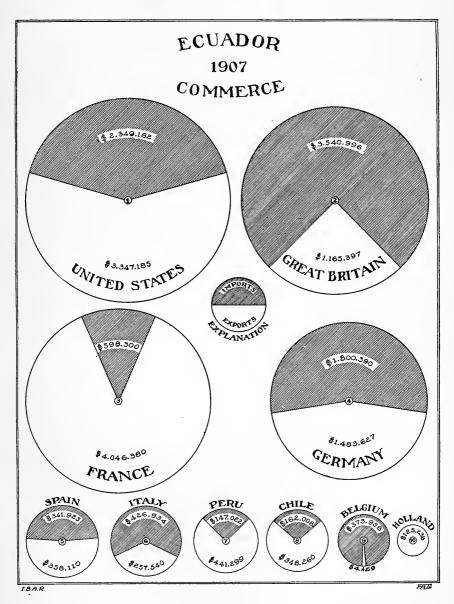
The principal articles exported were: Cacao, 43,348,369 pounds, worth \$6,934,257; ivory nuts, 47,131,627 pounds, \$1,358,056; hats to the value of \$1,171,043; rubber, 1,031,510 pounds, \$777,544; hides, 2,622,497 pounds, \$351,344; gold bullion, \$142,750, and cyanide precipitates, gold and silver, \$137,175. Gold dust was shipped to the value of \$17,290, and gold coin to the amount of \$117,550 was sent abroad. Shipments of toquilla straw used in the manufacture of the so-called Panama hats was exported to the value of \$90,523.

The leading items received from abroad comprised: Textiles other than silk, \$2,622,885; food products, \$1,535,907; gold and silver coin, \$1,084,444; iron and hardware, \$640,886; wines and liquors, \$444,063; minerals (coal), \$413,284; machinery, \$363,634; clothing, \$327,583; drugs and medicines, \$292,147, and shoes and findings, \$166,387.

The distribution of this trade according to countries of origin and destination shows the following:

Country.	Exports	Imports.
France		
United States		$5 \mid 2,349,18$
Germany		
Great Britain		
Peru	441, 29	
Chile		
Spain	358, 11	341,92
Italy	257, 54	0 426, 93
Holland		8
Belgium		

The countries showing a notable increase in the amount of Ecuadorian products received as compared with 1906 were, France, with an increase of \$634,032; Great Britain, \$471,644, and Italy, \$75,546.



On the other hand, exports to the United States declined by \$573,591, to Germany by \$414,229, and to Spain by \$144,155.

Increased imports by Ecuador from the following countries are reported: Great Britain, \$760,821; Germany, \$252,820; Italy,

\$166,094; Spain, \$95,815; Chile, \$62,733, and the United States, \$20,732.

Among the articles sent to the United States cacao ranks first, valued at \$1,499,247, though France outranks that country with \$3,618,530, followed by Great Britain, \$712,348; Germany, \$524,018; and Holland, \$125,237. Practically all the rubber shipped was destined for the United States, the value sent thither being \$635,400. Straw hats are next in value, worth \$438,056, followed by hides, \$262,266, and ivory nuts, \$204,356.

Germany takes nearly half of Ecuador's ivory nuts, or vegetable ivory, to the value of \$580,457, the next countries in order being France, \$262,883; Italy, \$231,313, and the United States.

After the United States the destinations of the hats exported were, Great Britain, \$283,525; Germany, \$184,984, and France, \$100,136, the remainder being distributed in smaller quantities, principally to the countries of Latin America.

In reporting on industrial conditions Consul Dietrich states that the chief occupation of the inhabitants of the Republic is agriculture, the raising of cacao being extensively engaged in, although attention is being paid to the growing of rubber, sugar, coffee, bananas, and rice. The hat industry is also becoming more important. Manufacturing interests are represented by two foundries, two ice plants, seven sugar refineries, and a number of flour mills. Several small establishments are also engaged in the manufacture of woolen and cotton blankets, ponchos, bayetas, common carpets, felt hats, pottery, bricks, tiles, cheese, candles, and confectionery. Laces and embroideries, shoes, furniture, matting, saddles, wagons, and carts are made by hand, and a small shoe factory is being installed.

Trade privileges are the same for both foreigners and natives, commercial travelers not being required to procure a license nor pay a tax on samples of merchandise.

During 1907 fire insurance policies were issued to the amount of \$3,279,750 and premiums paid worth \$181,360. Ten companies operate in the capital.

Communication facilities are being improved, the opening of the Guayaquil and Quito line and the definite settlement of the Huigra to Ceunca route being valuable steps toward opening up the country.

The company operating the street-car line in Guayaquil increased its capital stock from \$250,000 to \$375,000 on January 1, 1908, at which time it had a trackage of 26 miles. At present animal power is used for the car service, but work on the electric tramway has been resumed and it is anticipated that the system will be in operation within a short time.

Port entries at Guayaquil during 1907 show a total of 202 steamers and 8 sailing vessels, with a registry of 422,344 tons. More than

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half were British, 57 were Chilean, 37 German, 3 French, 1 Peruvian, and 1 American.

MODIFIED CONTRACT OF THE GUAYAQUIL AND QUITO RAILWAY.

The Congress of Ecuador has approved the contract made ad referendum on September 30, 1908, between the Government, the Guayaquil-Quito Railway Company, the agent of the foreign bondholders, and the committee representing the holders of first mortgage bonds of said railway with modifications:

The following is added to article 2 of the contract:

- "1. The company shall deliver the work according to the conditions contained in the contracts of June 14, 1897, and November 26, 1898, except the gradient.
- "The company agrees to take care of the preferred stock without rendering the Government liable in any way.
- "The company binds itself to complete and deliver the work within a period of two years.
- "In the improbable case of the company not complying with these obligations it shall lose all its rights and shares.
- "These obligations do not affect in any way whatever the holders of bonds with respect to their guaranteed rights under this and former contracts.
- "Any differences arising between the company and Government shall be settled in conformity with article 27 of the contract of June 14, 1907.
- "This contract shall be final and binding after it is signed by the Government and the railway company and ratified in London by a general meeting of the bondholders assembled at the call of the board of directors."

President Elox Alfaro, in a recent message to the Congress of Ecuador, explains in detail the contract ad referendum, entered into at Quito on September 30, 1908, between the Government of Ecuador and the Southern Railway Company, relating to the contracts made with Archer Harman on June 14, 1897, and November 26, 1898, for and in representation of an American syndicate incorporated in New Jersey under the name of "The Guayaquil and Quito Railway Company," for the purpose of building a railway from Guayaquil to Quito.

In the construction of this railway certain questions arose between the Government and the company. These were submitted to arbitration, but before the award was made the parties in interest decided to settle the controversy by making a new contract. Under the terms of the various agreements the capital of the company was fixed at \$12,282,000, represented by an issue of preferred and common stock to the amount of \$5,250,000, and \$7,032,000, respectively, and, in addition, first mortgage bonds, guaranteed by the Government, were issued on the road and its appurtenances to the amount of \$12,282,000.

Many obstacles were met with in building the road, and the company suffered, at different times, considerable losses in furthering the enterprise. In order to aid the company in the completion of the rail-

way, the Government paid to it the 1,000,000 sucres (\$500,000) corresponding to the interest and sinking fund for 1907, which payment was approved by the bondholders. This amount being insufficient to enable the company to complete the line to Quito, the Government made the company a further advance of 600,000 sucres (\$300,000).

The modified contract decreases the duration of the concession from seventy-five to sixty years and reduces the rate of interest from 6 to 5 per cent per annum, the Government guaranteeing the payment of the bond issue by a certain percentage of the Federal revenues. The satisfactory and equitable settlement of the differences arising between the Government and the railway company places the Administration in a position to carry to a successful termination the construction of the railway lines to Ibarra and Tulcan, in northern Ecuador; to Curaray, in the eastern portion of the Republic; and to Cuenca and Loja, in southern Ecuador.

The question at issue involved the settlement by arbitration or mutual agreement of bonds to the value of more than \$24,000,000, and the arrangement made not only upholds the credit of the nation and its reputation for fair dealing, but also places the railway company in a position to improve its line and to better its services to the public. The Government of Ecuador and the bondholders are to be congratulated on the wise and equitable adjustment of these differences between the railway company and the Administration by the sane and reasonable method of the mutual agreement of the parties in interest.

The railway from Guayaquil to Quito was completed on June 25, 1908, and was the occasion of an immense popular demonstration on the part of the people of Ecuador and of the exchange of hearty congratulatory messages between the Presidents of Ecuador and Colombia.^a

REVENUES IN 1907.

The revenues of the Government of Ecuador in 1907 amounted to 12,570,736.81 sucres (\$6,285,000). According to the budget, 7,066,795.46 sucres (\$3,533,000) of these revenues were distributed to special funds and \$5,503,941.35 sucres (\$2,752,000) to the payment of the current expenses of the Federal Government.

COMMERCIAL TREATY WITH CHILE.

The representatives of the Governments of Ecuador and Chile signed, in Santiago de Chile on August 29, 1908, a commercial treaty providing that vessels of either nation shall be considered in the

 $[^]a\mathrm{\,For}$ a fuller statement of the bond issue, see p. 551 of the March, 1908, BULLETIN,

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ports of the other nation the same as national vessels, and shall enjoy the privileges granted to vessels of the national merchant marine of the respective country. According to the terms of the compact the Governments in interest will mutually arrange for the subsidizing of direct lines of steamers to navigate between the ports of the two countries, and will have under their direction the control of the freight and passenger tariffs to be collected in the exploitation of the subsidized lines.

Provisions are made whereby the following Ecuadorian products may enter any of the open ports of Chile without the payment of duties: Sugar, not including refined and white granulated; coffee; cacao; dried and preserved fruits; Panama or toquilla straw hats, and Guayaquil canes. The following Chilean products may enter the ports of Ecuador without the payment of duties: Common or table wines when imported in kegs or barrels, and whose invoiced price per liter does not exceed 5 pence or its equivalent in national money at the current rate of exchange; grape juice; hay; guano; nitrate; rock salt; live animals; fresh, dried, or preserved fruits and vegetables; canned shellfish; construction timbers; beans; lentils; carob beans; chick peas; butter, and cheese. Other products of both nations will be subject to the payment of duties in accordance with the tariff applicable to merchandise of the same kind of the most-favored nation.

A certificate issued by the customs authorities of the port of shipment of either country is to be sufficient proof of the origin of the products, and shipments are to be made in accordance with the laws of the respective countries in interest.

The treaty will become effective from the date of its ratification and will remain in force for a period of four years.

TRADE WITH CHILE.

In 1907 Ecuador sent the following products to Chile: 27,730 kilos of granulated sugar, 730,325 kilos of coffee, 84,815 kilos of cacao, and 102,430 Guayaquil canes. All of these articles, which have hitherto paid a heavy duty, will, under the commercial treaty celebrated between the two countries, now be admitted free into Chile. During the same year Chile sent to Ecuador 23,610 kilos of hay, 10,140 metric quarts of nitrate, 3 horses, 400 kilos of dried fruits, 255,200 kilos of beans, 206,200 kilos of lentils, 38,800 kilos of carob beans, and 103,795 kilos of chick peas. The total value of Chilean exports to Ecuador in 1907 was 286,325 sucres (\$143,000), as compared with 721,504 sucres (\$361,000) of Ecuadorian exports sent to Chile during the same year.

CONSULAR FEES.

According to a recent modification of article 86 of the customs regulations of Ecuador, on and after January 1, 1909, the consuls of the Republic will charge the following fees:

For certifying invoices up to the value of 100 sucres, 2 sucres (\$0.97).

For certifying invoices whose value exceeds 100 sucres, 3 per cent of the invoice value.

For certifying manifests, 20 per cent of the total amount of the fees charged for the certification of invoices.

For certifying lists of parcels-post packages, 25 centavos for each package.

For certifying declarations concerning invoices, manifests, parcelspost lists, etc., 10 *sucres* (\$4.87).

. For certifying bills of health, 10 sucres (\$4.87).

When invoices, manifests, and parcels-post lists are presented after the sailing of the vessels to which they refer, additional charges of 1 per cent shall be collected on invoices, 10 per cent on manifests, and 10 centavos on parcels-post packages.

The collections and charges of consuls referred to in the foregoing belong to the nation.

SANITARY CONVENTION WITH PANAMA.

A sanitary convention, subject to the ratification of the Governments of Ecuador and Panama, was negotiated in Quito, Ecuador, by the representatives of the two countries on September 26, 1908. This convention is based on the Sanitary Convention of Washington, and when it becomes operative will have a most salutary effect upon the sanitary conditions of the ports of the two countries in interest.

DOMESTIC GRAPE PRODUCTS.

In order to encourage the development of the grape industry in the Republic of Ecuador, the National Congress has exempted domestic grape products from the payment of federal and municipal taxes.

MODIFICATIONS IN THE CUSTOMS TARIFF.

The tax on provisions, levied in accordance with the law passed by the Congress of Ecuador on January 5, 1907, has been repealed, but imports of foreign sugar will be taxed at the rate of 2 centavos a kilogram, plus a surcharge of 100 per cent, but should the price of first-class domestic sugar exceed 8 sucres (\$3.90) per 100 pounds in

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Guayaquil, foreign sugar shall be admitted free of duty while said price prevails.

The tax on domestic beer is removed, and a tax of 50 centavos a kilogram, gross weight, plus 100 per cent surcharge, is levied on the imports of foreign beer, and the tax on the consumption of the same is abolished.

The laws concerning the Government control of salt of October 19, 1904, and February 12, 1907, are now in force.

A POTABLE WATER SUPPLY FOR GUAYAQUIL.

The President of the Republic of Ecuador has, in a special message to the National Congress, recommended that a supply of potable water be furnished the city of Guayaquil from springs situated near the town of Naranjapata, in the vicinity of Guayaquil. The cost of bringing to the city an abundant supply of pure water from these springs is estimated at approximately 1,000,000 sucres (\$480,000). It would be necessary to expend this sum in piping the water over part of the distance and in conducting it through a new aqueduct over the remainder of the distance into the city of Guayaquil.

When the port of Guayaquil is furnished with an abundant supply of pure water the city will be able to greatly improve its sanitary condition, and the installation of the new water-supply system will not only be of local importance, but will also be of national benefit to the most important and progressive port of the Republic of Ecuador.

CONVERSION OF SPECIAL FUNDS INTO ADMINISTRATIVE REVENUES.

The Congress of Ecuador has authorized the President of the Republic to divert certain special funds of the nation into revenues for the payment of the current expenses of the nation. The Executive therefore decreed, under date of August 29, 1908, that until the end of the present year all the special funds of the Republic, except those specified in the Constitution, shall be used for the payment of administrative expenses. The appropriations for the Guayaquil and Quito waterworks, the parks in Quito, the waterworks at Machala, and public roads in general are therefore diverted, until January 1, 1909, into a fund to be used for the payment of the current expenses of the administration.



EXPORT STATUS OF NATIVE PRODUCTS.

Apart from coffee, which constitutes the bulk of Guatemalan exports, amounting to 90,000,000 pounds, worth over \$9,000,000, in 1907, other items which make up the total export valuation of \$10,000,000 are shipped in the following quantities:

Bananas: 599,680 bunches sent from Puerto Barrios and Livingston in 1907, against 516,996 bunches in 1906, the estimate for 1908 being 1,000,000 bunches.

Cacao: 115.23 quintals out of a total production of about 2,500 quintals.

Chicle: 2,142.26 quintals via Belize and Mexico, against 1,665.34

quintals in 1906.

Cocoanuts: 13,025, all to New Orleans.

Deerskins: 715.63 quintals, over 60 per cent going to the United States, 39 per cent to Germany, and the remainder to England.

Hides: 69,950 in number and weighing 14,646.38 quintals, were shipped principally to Germany, that country taking over 95 per cent and the United States $3\frac{1}{2}$ per cent, the remainder going to England and other destinations not specified.

Horns: 524.29 quintals, shipped to Germany.

Rubber: 3,921.59 quintals, against 3,881.06 quintals in 1906; 84 per cent going to Germany, 13 per cent to the United States, and the remainder variously distributed in small quantities.

Sugar: 41,774.30 quintals, compared with 15,729.22 quintals in 1906; nearly 86 per cent going to the United States, 10 per cent to England, and the remainder variously distributed.

Vegetable oils: 206.01 quintals were sent to England.

Woods: Customs statistics show exports of 4,729,289 superficial feet, but as there are no custom-houses along the Usumacinta River and tributaries, where several foreign companies are cutting timber, the estimate of production figures for nearly double that amount. Mahogany and cedar form the bulk of this class and are shipped practically entirely to the United States, either direct or in transit, via Mexican ports and Belize.

PROPOSED RAILROAD CONNECTIONS WITH THE UNITED STATES.

The United States Vice-Consul-General at Guatemala City reports that a contract has been signed, the particulars of which have not yet been learned, providing for the construction of a railroad from a point on the existing Occidental Railroad, presumably Caballo



STATUE OF COLUMBUS, GUATEMALA CITY, GUATEMALA.

This celebrated monument of the Great Discoverer adorns Central Park. The artistic composition of the figures and the bronze globes is most happy, while this park, with its wealth of semi-tropical vegetation and its commanding and picturesque location, forms a fitting background.



STATUE OF GENERAL MIGUEL GARCÍA GRANADOS EX-PRESIDENT OF GUATEMALA.

This bronze statue was erected on the Boulevard of the Reforma, City of Guatemala, in 1905, in commemoration of one of Guatemala's most progressive Chief Magistrates. General Granados entered the presidential office in 1870, and during his incumbency many economic reforms were instituted.

HAITI. 1095

Blanco, to Ayutla, on the Mexican frontier, including also the construction of a bridge across the Suchiate River.

Such a road when built would give Guatemala through railroad communication with the United States, and, but for difference in gauge between Mexican and Guatemalan roads and probable tariff arrangements, would send all produce from southwestern Guatemala over pan-American and Mexican roads to Coatzacoalcos as a shipping point.

All existing Guatemalan railroads are 3-foot gauge, but it may be interesting to know that the greater number of the bridges, with their masonry, of the Guatemala Central were constructed with a view to possible widening of the track to standard gauge.

The Guatemala Central Railroad has also signed a contract to construct for account of the Government of Guatemala a railroad from San Felipe, the present branch terminal of the Occidental road, to Quezaltenango.

Preliminary surveys are now being made south from Zacapa, Guatemala, with a view to join the Guatemala Railway to the proposed Salvador road, thus creating an outlet toward the Atlantic for products of that very productive Republic.



COFFEE GROWING IN THE REPUBLIC.

The coffee plantations in Haiti are estimated to cover an area of about 125,000 acres, the plant having been introduced into the country two hundred years ago. As a rule, however, the useful existence of each plantation is limited to about twelve years.

Climatic conditions, soil, etc., are wonderfully favorable to the exploitation of the industry, and exports to the amount of 100,000,000 pounds were formerly made annually by Haitian growers. At present shipments do not total more than half that amount.

The better grades of native coffee are those of St. Mark and Gonaives, while those of Cap Haitien, Jacmel, Aux-Cayes, and Jérémie occupy a lower rank.

An export duty of \$3.86 per hundred pounds is collected on shipments of the product.



NEW RAILROAD LINE.

The United States Consul at Ceiba furnishes the information that a company composed of Chicago capitalists has obtained from the Government of Honduras a valuable concession for the construction of a railroad from Truxillo on the Atlantic to Tegucigalpa. The capital stock is given as \$10,000,000 and the company is incorporated in Arizona under the name of the Honduras National Railroad Company.

The total bond issue requisite for construction purposes has been placed in the United States and work will be begun immediately upon the shipment of construction plant and stores to Truxillo.

As projected the line will include, in addition to the main route, branches to many interior cities, thus giving communication and transport facilities to a practically virgin territory. The section to be penetrated is reported to be exceedingly rich in gold, silver, other minerals, and hardwoods.

The total length of the road when completed will be about 350 miles, the track to be of standard gauge and all material to be of United States manufacture.

Fine harbor facilities at Truxillo make it possible to meet an increased shipping traffic.

MINING CONDITIONS IN THE REPUBLIC.

A report issued in the "Mexican Mining Journal" for November, 1908, furnished by E. DE MONTIS, a mining engineer of Tegucigalpa, outlines the conditions attending the exploitation of the mining industry in Honduras and forecasts the prominent position to be taken by the Republic as a producer of minerals.

As is well known, gold, platinum, silver, copper, iron, lead, zinc, tin, quicksilver, and more or less coal of varying quality occur in Honduras, the exploitation of which has never been adequately developed. Gold is found either in quartz veins or in alluvial deposits, the quartz being mainly in a country of diorite or slate. The most important gold mines are on the south coast of the country, several good prospects being only a few miles from the sea. The metal occurs either as free gold or in connection with sulphides, the fineness being from 700 to 850. Very rich ores have been found in the Department of El Paraiso and Olancho, but the working has consisted of extracting all the rich ore bodies on the surface without following the veins

in depth. In these Departments the washing of alluvial deposits is also extensively carried on and several United States companies have well-organized camps.

Silver ores are found in all the Departments, occurring in quartz veins carrying sulphides, galena, and zinc-blende, with some gold values; in blanket veins carrying free silver with small quantities of sulphides and seldom gold values; and in lead-zinc veins (mostly blanket) with some sulphides and no gold values. There are also deposits of antimony and lead carbonates carrying silver in the ratio of 20 to 40 ounces to the ton, with no gold values.

The prevailing idea is that copper-lode formations do not exist in Honduras, but there is evidence that ores of this character were formerly treated, outcrops and old works being found in several Departments. A pillar of copper ore left by the Spaniards in an old mine gave 42 per cent copper, 105 ounces of silver, and $1\frac{1}{2}$ ounces of gold.

The deposits of iron ore have been worked to a very limited extent, though the existence of an extensive area of magnetite of fine quality is reported. All the lead ores are worked for their silver contents, and though platinum finds have been reported, the pure metal has not been discovered. Stray tin samples have been found in the Department of Tegucigalpa, but no deposits of this metal and zinc blends and carbonates occur in lead mines, but not as distinct bodies. Antimony and lead carbonates are found in several districts, but owing to the difficulty of extracting the silver values but little attention has been paid to working them. Record of a rich cinnabar vein in the Department of Comayagua was made during the Spanish occupation, but no prospecting in the field has been done. Outcrops of a large bismuth vein are found in the Department of Tegucigalpa, besides which samples of graphite, gypsum, mica, and manganese have been found. No coal mining has been done.

As yet the application of modern methods of extraction or working is very limited. The best equipped property is that of the Rosario Mining Company, from which over \$12,000,000 have been produced. The veins are fissure veins carrying some free silver and gold, sulphides of lead, zinc, and copper. The plant was first constructed to treat ores by pan-amalgamation; later the treatment was changed to concentration and amalgamation and at present the cyanide process is used, the company claiming a 96 per cent extraction.

The denouncement of a mining claim may be made by any individual, and to own a claim 1,200 by 600 feet an extent of 30 feet must be opened following the vein, and 12 feet sunk on the vein. A zone to the extent of 1,000 hectares may be denounced, which six months afterward is measured and taxes upon it paid for the first year. These

taxes amount to 50 cents silver per hectare per year. Free entry through the customs is granted for all needful equipment.

All the freight used for the mines is introduced by way of Amapala, the steamships anchoring about a quarter of a mile from shore, the cost of transport to the mainland being about \$7.50 per ton. Transfer to the interior is made by pack mules, except in the case of exceptionally bulky pieces, which are taken in two-wheeled carts drawn by oxen. Native charges for this are about 30 cents per ton for each mile.

Topographically, Honduras presents the form of old mountain districts, the greatest elevations being 12,000 feet above sea level.



FOREIGN COMMERCE IN AUGUST, 1908, AND FIRST TWO MONTHS OF 1908-1909.

The imports of the Republic of Mexico in August, 1908, amounted to 10,767,968.74 pesos (\$5,384,000), as compared with 20,377,548.02 pesos (\$10,189,000) in the same month of the previous year, or a decrease in August, 1908, as compared with August, 1907, of 47 per cent. The exports in August, 1908, were 16,428,320.84 pesos (\$8,214,000), as compared with 26,209,194.64 pesos (\$13,104,000) in August, 1907, or a decrease of 37 per cent.

The exports and imports for the two first months of the fiscal year 1908-9 were 22,435,760.12 pesos (\$11,218,000) and 32,879,817.20 pesos (\$16,439,000), respectively, as compared with 40,014,767.46 pesos (\$20,007,000) and 44,671,096.50 pesos (\$22,335,000), imports and exports, respectively, for the first two months of the fiscal year 1907-8, or a decrease of 44 and 26 per cent, respectively.

LIVE STOCK IN THE REPUBLIC.

Latest Federal statistics report the following distribution and value of live stock in Mexico:

Cattle, 5,142,457, valued at \$40,540,994 gold; sheep, 3,424,430, worth \$3,006,578; hogs, 616,139, \$1,024,929; goats, 4,206,041, \$3,610,714.

The States of Chihuahua and Veracruz lead in the number of cattle, with 396,023 and 392,858, respectively; Zacatecas and San Luis Potosi in sheep, with 826,704 and 415,697; Tepic and Jalisco in hogs, with 86,523 and 76,529, and Coahuila, Durango, and San Luis Potosi in goats, with 615,144, 534,304, and 519.844 respectively.

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PACKING HOUSES IN THE REPUBLIC.

The following report, covering the slaughtering, packing, and refrigerating industries of Mexico, is furnished by Consul-General Benjamin H. Ridgely, of Mexico City.

An event of unusual commercial importance has just been consummated in Mexico City, viz, the sale of the Mexico City slaughterhouse to the Mexican National Packing Company. This company was organized in 1905, with a paid-up capital of \$4,000,000 (\$1 Mexican=49.8 cents American). In 1906 the name of the company was changed and its stock was increased to \$10,000,000. In 1907 the capitalization of the company was again increased, this time to \$15,000,000. The money has invariably been furnished by English bankers and capitalists, although an American is at the head of the enterprise.

The company when organized received certain valuable concessions from the Mexican Government, but recently it was proposed that certain of these should be withdrawn and other concessions granted in their stead. Incidentally it was brought about that the company, in receiving the new concession, should purchase the Mexico City slaughterhouse. The price paid was \$2,500,000, or \$1,245,000 gold.

The company thus finds itself in complete possession of the beefpacking business of Mexico, with one plant for slaughtering, refrigerating, and packing already in operation at Uruapan, and the plant just organized in this city. These two plants have a joint capacity of 1,100 beeves a day, but the company proposes to build at once a third plant, for export, at Veracruz, and a still larger plant at Monterey, the entire four to have a slaughtering and packing capacity of from 2,500 to 3,000 head per day.

In regard to its canning business, it is understood that the company in its concession from the Mexican Government is to receive all its plate, tin, and all other supplies of machinery free of duty for a period of twenty years. A canning factory has already been equipped and will be in operation within a short time.

The company proposes to dress beef at one of the plants and to can at another, thus combining the two branches of the trade for an export business, principally to the United Kingdom.

In the City of Mexico about 400 cattle and 450 sheep are slaughtered daily, and now, since the purchase of the slaughterhouse, all of this will be exclusively in the hands of the company.

The company claims that American packers can not compete with it in Mexico, because the cost of live stock in the United States is so much greater than in Mexico that any shipment of live stock from the United States to Mexico is entirely out of the question. It is also claimed that the high tariff duty on packing-house products coming

into Mexico, coupled with the higher prices of cattle and hogs in the United States, will make the importation of American dressed meats into Mexico impossible.

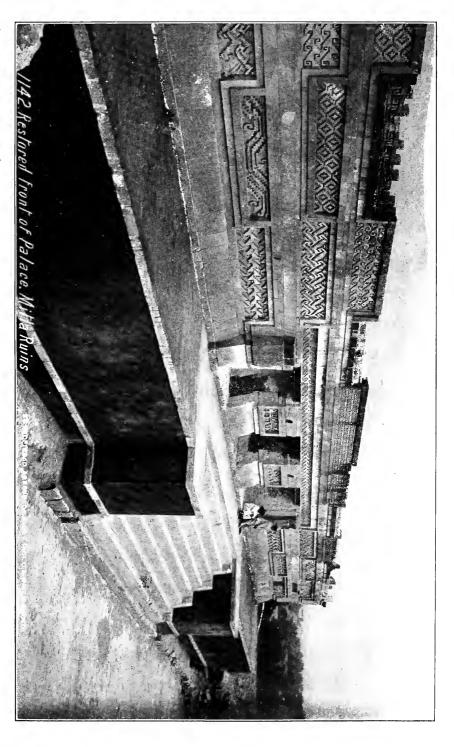
MEXICAN OIL FIELDS.

The surface indications in the oil belt of Mexico, as described by Dr. Esequiel Ordoñez, of the Mexican Geological Survey, are mounds in the extensive peneplains of the various States. These differ from Texas mounds in having a central chimney of basalt. Most of the oil is of asphaltic base, very viscous, and used only for fuel and lubricating. The common distillation produces about 50 per cent of asphalt of the best quality for paving and painting purposes.

The 1907 output is estimated at about 1,000,000 barrels, mainly from the Ebano field and of the fuel variety.

In its summary of the oil fields of the world, the United States Geological Survey reports concerning the development of the oil fields of Mexico, stating that petroliferous lands extend from the hacienda of San Jose de las Ruinas, in Central Tamaulipas, to the district of Valles, in San Luis Potosi (where the Ebano oil deposits are being worked), through the counties of Uzuluama, Tuxpan, and Papantla, in Veracruz. Farther to the south is a region which embraces the Veracruz counties of Acayucan and Minatitlan and extends southward through the States of Tabasco, Campeche, and Chiapas. Petroleum has also been found in small quantities in the federal district of Mexico, in Jalisco, and Oaxaca, and at other points along the Isthmus of Tehuantepec. Some recent discoveries in the States of Chihuahua and Coahuila show the existence of paraffin oil in the country.

There are at present five companies in operation, the most important being the Mexican Petroleum Company, whose main field of operation is located near the port of Tampico, with headquarters at the town of Ebano, which the company established. Other fields of the company are situated near Laguna de Tamiahua, south of Tampico and near Tuxpan, a little farther south. This company has bored a number of wells, the capacities of which are estimated from 500 to 1,000 barrels each per day, and it is reported that a gusher, with a capacity of 1,800 barrels daily, was opened up early in 1907 in the Ebano field. The company, in addition to keeping its refinery constantly supplied, also furnishes from 3,000 to 4,000 barrels of oil daily to the Mexican Central for use on its railway, and also supplies the crude-oil market of a large portion of the Republic. The Veracruz refinery has a capacity of 350,000 gallons crude per month, and that at Tampico refines 1,000,000 gallons at present, but is being enlarged.

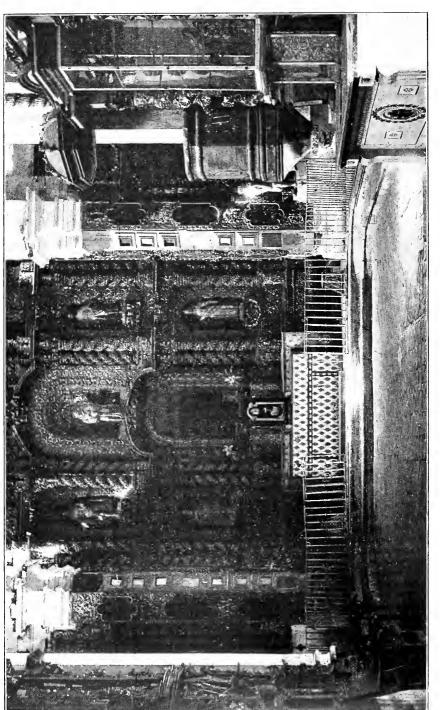


(Photo by C. B. Waite, Mexico City.)

RESTORED FRONT OF PALACE, MITLA RUINS, MEXICO.

Mitla, "The Place of Sadness," in the valley of Tlacolula, is twenty miles southeast of the city of Oaxaca, and the site of the most elaborately ornamented ancient ruins in America.

There are five groups of these ruins, three of which are in excellent state of preservation. Their distinctive feature is the peculiar mosaic work of pieces of stone, each about seven inches long by one in breadth and two in thickness, accurately cut and fitted into the face of the wall, and forming patterns of so complicated a nature as to give these ruins a foremost-place among archaeological discoveries in the Western Hemisphere.



(Photo by C. B. Waite, Mexico City.) THE OI DEST

THE OLDEST PULPIT AND ALTAR IN MEXICO, AT TLAXCALA, MEXICO.

The present city of Tlaxcala is the sight of the ancient Capital of the Republic of Tlaxcala, whose armies were the allies of Cortez. Above the town, on a slight incline, is the very old convent of San Francisco, one of the first of four erected by the Frailes in 1524, still containing the first pulpit and altar erected in Mexico. They are of stone striped with red and gilt, and bearing the inscription." Aqui Tubo Principio el Sto. Evangelio en este Nuevo Mundo," translation of which is." Here the Holy Gospel had its beginning in the New World."

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The Mexican Central Railroad employs oil-burning engines on its main line from Torreon to the City of Mexico, and on its branches from Mexico to Cuernavaca and Balsas, from Tampico to Aguascalientes, and from Mexico to Guadalajara and Tuxpan-Colima. Storage tanks are being prepared at Guadalajara, Yurecuaro, Zapotlan, and La Vega, and metal delivery tanks are being erected. Some oil has been unloaded at Guadalajara and Zacatecas. The Mexican Petroleum Company sells a small part of its product, reduced to asphalt, to the Mexican Paving and Construction Company for paving purposes in the cities of Mexico and Guadalajara, and purposes establishing a plant at Ebano for producing 100 tons of pure asphalt daily. The asphalt finds a ready market in Europe for paving and painting uses. Some of it has been sold for painting the bottoms of the warships of the navies of Great Britain and the United States.

Another company whose operations are extensive and on the increase is that of Messrs. Pearson & Son (Limited), with oil fields at Minatitlan, in southern Veracruz, and in Tabasco. The main oil camp is located near San Cristobal, not far from the Tehuantepec Railroad, where the company is drilling many test wells. This oil is of somewhat lighter grade than that of the Ebano and Tuxpan fields. The oil of southern Veracruz, especially that of Minatitlan, is being stored preparatory to the completion of the refinery under construction at Minatitlan, near the City of Mexico, which is to be the largest ever erected in the Republic. It will be complete in every department. The company has completed a pipe line from the San Cristobal fields to the refinery, where there is one 42,000-barrel tank filled with oil. The Minatitlan oil is said to require considerable refining, being very rich in naphtha. The company was very active in 1907 in drilling its various holdings in Veracruz and Tabasco, and is erecting large storage tanks at Veracruz.

Some of its wells are of the gusher variety. It is now supplying the locomotives on the National Tehuantepec Railroad with fuel oil from its field, the supply having formerly been obtained from Texas. The company has also made a contract to supply fuel oil for the engines of the Mexican Railroad from the capital to Veracruz.

Another company is the Furber Company, operating on land near Papantla, State of Veracruz, where oil was discovered a few years ago. Owing to remoteness from railroad transport but little development has been accomplished in this field, but a projected line from Teziutlan to the port of Naula will pass near the property. It is reported that oil has been found in every boring, and tankage is being erected and a pipe line to the sea is under consideration.

Oil was recently discovered in a new well bored near Ojinaga, in the State of Chihuahua, with small results, and a test for oil on land near Pochutla, near the Pacific coast of Oaxca, is reported successful in locating pay sand. This new field is close to Port Angel.

NEW STEAMSHIP SERVICE.

The United States Consul at Tampico reports the final arrangements for the lease of the Mexican-American Steamship Company by the Wolvin Line, thus enabling the latter company to practically control the business between Mexican and Gulf ports of the United States. The volume of trade is constantly increasing, and improvements in both passenger and cargo accommodations are to be made.

THE PORT OF ACAPULCO IN 1908.

The number of vessels entering the port of Acapulco during the fiscal year ending June 30, 1908, is recorded as 164 steamers and 47 sailing vessels, the tonnage being 385,717 and 8,381 tons, respectively. Clearances are reported of 165 steamers with 385,434 tons, and of sailing vessels, 47 with 8,556 tons.

NEW SANITARY STATION AT MAZATLAN.

The Government of Mexico has acquired land on the eastern side of the Vigia Hill, in the city of Mazatlan, State of Sinaloa, for the purpose of establishing a new sanitary station there. The site is very desirable, and the ground acquired is sufficient to meet the needs of this station in the progressive port of Mazatlan for many years to come.

RAILWAY COMMUNICATION BETWEEN MANZANILLO AND THE INTERIOR.

The railway from Tuxpan to Manzanillo is nearing completion. The large bridge over the Santa Rosa Canyon and the small one over Salt River are not yet finished. It is thought, however, that the construction will be terminated early in December of the present year, and that the public inauguration of the line will take place in January, 1909.

Tuxpan is a station on the Guadalajara division of the Mexican Central Railway, 198 kilometers from the city of Guadalajara and 68 kilometers from the city of Colima. The maximum grade between Tuxpan and Colima is 2 per cent. The line passes through a rich and picturesque country which promises a rapid development in mining and agriculture, due to the building of this railway.

The section of the railroad between Tuxpan and Colima has a number of large tunnels, 14 important bridges, and numerous trestles,

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and the entire road is a work of engineering skill. The cost of the line between Tuxpan and Manzanillo is estimated at 13,000,000 pesos (\$6,500,000).

THE PORT OF MANZANILLO.

The magnificent, safe, and commodious harbor of Manzanillo, which will soon have direct rail communication with the capital of Mexico and with the great railway systems of the Republic, is destined, on account of its geographic position, to become one of the most important ports on the Pacific coast. The Far East, with its large and constantly increasing commerce, will find, through this port, a favorable and convenient gateway for its products to the markets of the Republic. Imports induce exports, and a current of trade is now springing up that promises to grow to immense proportions.

Manzanillo is one of the most ancient and celebrated ports of the country, and lies almost due west of the city of Mexico, 500 miles south of Mazatlan, 900 north of Salina Cruz, and 400 north of Acapulco. When the important port works at Manzanillo are terminated it will be one of the best equipped and most desirable ports on the Pacific coast, inasmuch as it will bring the city of Mexico nearer, for all practicable purposes, not only to San Francisco, but also to Panama, and will, therefore, become a favorite mart of oriental trade and the central port of shipment for the great export trade of the western part of the nation with its rich agricultural and mineral zones.

The city of Manzanillo is connected with the capital of the State of Colima by a railway 56 miles long. The port works at Manzanillo have been in course of construction since 1899, and the city is to be provided with an excellent drainage and water system. The port can accommodate 140 deep sea-going vessels, since it has an area of 165 acres and a depth of 39 feet, making it the deepest port on the Pacific coast.

The breakwater at Manzanillo is one of the largest and most important in the world, surpassing those of Cherbourg, France, and Plymouth, England. It is constructed of large rocks and granite blocks weighing from 50 to 60 tons each, and is 400 meters long, 24 deep, and 100 wide.

GREAT CEMENT PLANT IN HIDALGO.

In Dublan, State of Hidalgo, the Portland Cement Company of Mexico has undertaken the construction of a completely new plant, at an estimated cost of \$2,000,000, equipped with modern machinery and capable of a daily output of 1,000 barrels.

The site of the plant is about 75 kilometers from the City of Mexico, on the Mexican Central road, and near a quarry of limestone which is 98.5 per cent pure calcium carbonate. Clay, the other necessary element in the manufacture of cement, is found near the works in a peculiarly pure and adaptable form. The electrical power by which the machinery is operated is generated by the Mexico City drainage canal and is supplied at a pressure of 25,000 volts, 600 horsepower being employed constantly for twenty-four hours a day.

THE HAMBURG-AMERICAN LINE TO CALL AT COATZACOALCOS.

A report from Consul William W. Canada, at Veracruz, states that the vessels of the Hamburg-American Line, heretofore calling at Havana, Veracruz, and Tampico, have now included the port of Coatzacoalcos in their itinerary. The Fürst Bismarck, sailing from Veracruz October 9, was the first vessel of this line to call at that port. This would seem to indicate that considerable traffic will be inaugurated with Pacific coast countries in connection with South American steamship lines via the Isthmus of Tehuantepec. The Royal Mail Steam Packet Company will also make Coatzacoalcos a port of call.

SHRIMP FISHING AT PUEBLO VIEJO.

At the village of Pueblo Viejo, situated by the Laguna de Pueblo Viejo, about 4 miles from Tampico, is centered one of the oldest and most interesting of Mexican fishing industries. Here, from March to December, the natives gather the camarones, or shrimp, which abound in the brackish waters of the lake, and in a primitive manner cook, dry, and prepare them for market.

These famous fishing grounds comprise a group of beds of the narrow water passages of the laguna lying between the numerous small islands and adjacent to the village. They are directly under the Mexican federal authorities, and contain 92 pesqueras, or traplike inclosures, that are being operated.

There are gathered and prepared for shipment 150 tons of shrimps annually, valued at about \$20,000, most of which are consumed in the home markets, although an effort is now being made to introduce them in the United States.

VALUE OF MINING PROPERTIES.

An estimate of the value of mining properties held by foreign companies and individuals in Mexico fixes the amount at \$350,000,000, and a careful compilation by the "Mining World" covering a period of nine months in 1908 shows that dividends of \$6,723,061 gold have been declared by 28 gold, silver, copper, and lead mines and smelters. These same properties, which have an outstanding capitalization of

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\$60,653,385, have since their incorporation yielded \$45,324,041, or a return of 75 per cent on the invested capital.

The leading dividend payer is the great Esperanza mine, whose gold output is controlled largely by British investors, though Americans are also interested. During the nine months ending with September, 1908, the Esperanza mine yielded dividends amounting to \$1,804,175, and since its acquisition by the present company in October, 1903, has paid its stockholders the sum of \$9,222,040 on a capitalization of \$2,275,000, or more than four times the purchase price of the property.

On an issued capitalization of \$5,400,000 the El Oro Mining and Railway Company (Limited) has declared dividends of \$4,393,600 since its incorporation in July, 1899, while Dos Estrellas, in the State of Michoacan, has distributed dividends totaling \$3,480,000 on a capitalization of \$150,000. Dolores, another foreign-owned gold mine, situated in the Guerrero district of Chihuahua, has paid large dividends since incorporation in January, 1904, while Santa Gertrudis y Guadalupe, in the State of Hidalgo, is one of the best-paying gold and silver properties in the Republic, having yielded \$3,760,082 on a capitalization of \$3,000,000. San Rafael, in Hidalgo, pays regular monthly dividends, totaling \$3,151,138 on a capitalization of \$60,000.

In the copper group dividends are not so numerous, the temporary suspension on the part of the Greene company greatly affecting the output, but the American-owned property of Tezuitlan has disbursed \$1,820,000 on an issued capitalization of \$8,000,000, and in the nine months ending with September, 1908, distributed \$240,000 in dividends.

As summed by the journal quoted, the profit-earning power of Mexican mines and metallurgical works is notably good, and well-managed properties may be regarded as satisfactory investments.



ANTIQUITIES FOR THE NATIONAL MUSEUM.

The Congress of Panama has appropriated \$5,000 for the purchase of antiquities of stone, pottery, pre-Colombian jewelry, and other objects representing the works of the aborigines of the American Continent. Articles of the epoch of the conquest of the continent by the Spaniards, the civilization of that period, and samples of national products are also to be acquired for preservation and exhibition in the museum.

ARCHIVES AND LIBRARY FOR NATIONAL ASSEMBLY.

Special archives and a library have been established in the capital of the Republic of Panama for the use of the Congress. The library is to contain reference books, such as treatises on law, codes, decrees, and printed documents relating to national affairs. The archives and library will be under the direction of a filing clerk and librarian, and will be open during the sessions of the Congress. The expenses incident to the establishment and operation of the archives and library are to be provided for in the budget.

REPORT ON CANAL CLAIMS.

The "Diario Oficial" of September 12, 1908, contains the final report of the commissioners appointed by the Governments of the United States and Panama, in accordance with the treaty of November 18, 1903, arising out of the construction and conservation of the Panama Canal. The report, which is dated August 8, 1908, is signed by Edwin Denby, chairman of the committee, and gives a detailed account of the different claims presented to the commissioners for adjustment.

HABEAS CORPUS ACT.

The "Diario Oficial" of the Republic of Panama of September 30, 1908, contains the full text of the habeas corpus act passed by the Congress of Panama on September 23, 1908, and promulgated by President M. Amador Guerrero on September 25, 1908. The act consists of 49 articles defining habeas corpus and relating to the procedure to be followed in habeas corpus cases.



FOREIGN COMMERCE IN 1907.

Official figures of the foreign commerce of Paraguay during 1907, as furnished to his Government by the British Consul at Asuncion, fix the total valuation at \$11,097,382, as against \$8,962,000 in the preceding year. This total exceeds by over \$1,000,000 the published estimate of the results of the year's trade, and is composed of imports to the value of \$7,861,273 and exports, \$3,236,109. Both branches of trade show advances over the figures for the preceding year, the gain in imports being over \$1,500,000, while in exports an increase to the value of more than \$500,000 is shown.

Details as to the origin of imports are not obtainable, but the receipts from Great Britain are rated at quite one-half of the total, the chief items being cotton textiles, groceries, tinned provisions, hardware, spirits, drugs, and haberdashery. Germany ranks second on the import list, furnishing rice, groceries, hardware, machetes, stationery, guns and ammunition, glass, china, earthenware, ironmongery, bits and spurs, furniture, musical instruments, saddlery and harness. From France come wines and spirits, sugar, perfumery, leather, groceries, and tinned provisions; and from Italy, wines and spirits, tinned provisions, and groceries.

From the United States a small amount of agricultural machinery is received, also machetes, axes, and kerosene, while a tendency to increase purchases of American dressed hides and leather for boots and shoes is noted. On the trade lists of the last-named country, shipments of merchandise to Paraguay in 1907 are valued at \$170,893, against \$110,496 in the previous year.

Export destinations for the year show the following valuations:

Argentine Republic	\$1,850,610
Germany	566, 700
Brazil	25,145
France	9,915
Great Britain	3,479
Italy	29,299
Uruguay	475,624
Belgium	268,650
United States a	2,601
Bolivia	3, 034
Other countries	3,040

It is thus shown that the Argentine Republic takes the largest share of Paraguay's exports, the leading items being yerba mate, oranges, hides, tobacco, and timber. Germany takes nearly all the leaf tobacco, hides, timber, and quebracho extract. To Uruguay are shipped yerba mate, hides, and certain exports in transit for Europe. Belgium takes tabacco and hides, while Great Britain and France take essence of petit grain and small amounts of leaf tobacco.

There are about 674 commercial houses established in Asuncion, nearly all of which are in the hands of Germans, French, Italians, and Spaniards. Two British houses do business in the capital, while 1,728 firms of various nationalities have establishments in the country districts.

In order to overcome the discrepancy between export and import values, the Government is desirous of promoting native industries and to attract immigration. An Italian colony has been established near the capital, and the introduction of Asiatic labor is under considera-

^a United States figures, \$7,261.

tion, it being regarded as feasible to employ coolies in the cultivation of rice, sugar, and tobacco throughout the Republic.

The last census (that of 1899) gives the total number of inhabitants of the country as 490,719, of whom 472,433 were native born and 18,286 foreigners. At the same time there were on the various ranges 228,300 horned cattle, 214,000 sheep, 187,000 horses, 32,000 goats, 24,000 hogs, and 8,000 mules and asses.

EXTRACTION OF OIL OF PETITGRAIN.

The sole declared export of Paraguay to the United States, according to Consul Norton, at Asuncion, consists of the distilled essence of orange leaves, or, as it is called commercially, "oil of petitgrain."

The production of this essence is slowly increasing, although the industry is carried on in a primitive fashion. The principal distilling plants are located about 50 miles from Asuncion, among the orange groves of Yaguaron, and the stills, though crude, produce an excellent quality of the essence.

It is estimated that from 300 to 350 pounds of the leaves of the bitter orange 1 pound of the essence may be extracted, the product being used by perfumers as a base for many of their preparations, it being also employed in the manufacture of certain flavoring extracts.

The total value of the oil shipped in 1905 is given as \$10,617 gold, though this figure is probably below the actual value. Of that sum, \$2,417 represents the shipments to the United States, the valuations for the three succeeding years being \$2,016, \$10,002, and \$10,371 (first half of 1908), respectively.

The market prices of the different varieties of the product show that while French petitgrain sells for \$18.81 per kilogram, that of Paraguay ranks next at a valuation of \$13.71, followed by Portuguese, \$10.18. These are British quotations, the United States valuations being lower and show less difference between the French and Paraguayan essence.

DREDGING OF RIVERS.

For the purpose of facilitating commercial transactions in the Republic of Paraguay, the Government has decided to establish an office to take charge of and superintend the dredging of the rivers of the country. To this end the Executive power has appointed a commission consisting of the Director-General of Customs and the Captain-General of Ports, placing at their disposal the dredging apparatus recently acquired by the Government, together with the personnel, materials, and supplies necessary for the operation of the same. The improvement of ports and the removal of obstructions in the navigable rivers of Paraguay are matters that will receive the prompt and careful attention of the commission.

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SHOE AND LEATHER INDUSTRY.

The following information concerning the shoe and leather industry of Paraguay, and the imports of leather into that Republic, is furnished by Consul Edward J. Norton, of Asuncion:

The value of leather imported into Paraguay annually will average about \$40,000 Argentine gold (Argentine gold dollar=96.5 cents United States currency). France supplies nearly one-half of this, the Argentine Republic coming second, and Germany third. The total imports from the United States, according to official figures for 1905 and 1906, were insignificant, but it is encouraging to note that the trade in American leathers is slowly but steadily increasing.

The Argentine leather supplied is chiefly sole, but local tanneries furnish the bulk of the sole leather consumed in Paraguay. The largest tannery in the country is located at Asuncion, and there are probably a dozen small plants scattered throughout the Republic. With the exception of the tannery at Asuncion, which turns out a limited line of calf, kid, saddle, and harness leather, the tanneries in Paraguay produce sole leather exclusively.

Imported leathers consist principally of patent calf and kid, russet and black calf, black and colored kids (the favorite colors being brown, tan, cream, and white), and russet, morocco, and white sheepskins. Some split and russet grain leather is imported for use in the manufacture of shoes for the army.

There is but one power shoe factory in Paraguay, located at Asuncion, which has a capacity of about 100 pairs per day. Shoes are made generally by hand and to measure in little shops employing from five to a dozen hands, and there are about thirty-odd shops of this description in Asuncion. The shoe trade, however, is not as important as one would be inclined to consider it, for the reason that fully one-half of the inhabitants of the country, probably 300,000, go barefoot. Shoes to the value of \$7,882 Argentine gold were imported in 1905.

CUSTOMS DUTIES AND LEATHER SHIPMENTS TO PARAGUAY.

The import duty on leather is 55 per cent ad valorem, and for the purpose of assessing this duty the customs value the different kinds of leather as follows per kilogram (2.2 pounds) in Argentine gold: Calf, black, \$2; calf, patent and russian, \$3; goatskins, morocco, etc., \$2.50; kid, black or colored, \$4; colt, patent, etc., \$2.50; sole leather, \$2. Leather is weighed with all packing, coverings, etc., and rated accordingly.



MESSAGE OF THE PRESIDENT.

On September 24, 1908, President Augusto B. Leguía, on the occasion of the opening of the regular session of the Peruvian Congress in Lima, delivered an eloquent and forcible inaugural address in which he spoke in the highest terms of the work of the preceding administration, and reiterated his intention of following out the wise and progressive programme initiated by President Pardo.

The message of the new Executive shows him to be strongly in favor of the maintenance of perfect order and obedience to law at home, as well as the conservation of the amicable foreign relations that now so happily obtain in the dealings of the Republic with all the civilized nations of the world.

The development of the public school system and the spread of education throughout the Republic is advocated in an able and convincing manner. The extension of primary instruction over the entire country, in accordance with the plan undertaken and so successfully carried forward under the preceding administration, receives the hearty support of President Leguía, who considers the subject of education one of the most important questions with which he will have to deal and intimately connected and closely interwoven with the material progress and moral development of the nation.

The completion of the railways in course of construction and those now contracted for has the earnest support of the Chief Executive, who expressed a desire to do all within his power to further the building and extension of the railroads and highways of the Republic.

The important question of immigration is discussed at length, and the President advocates the encouragement in every way possible of the coming of immigrants to Peru, and especially of agriculturists and artisans, who will find an unlimited field for the development of the rich and boundless natural resources of the country.

The proper sanitation of the principal ports and cities of the Republic receives the strong indorsement of the Executive, and especially is this true of the great maritime, railway, and commercial centers of Paita, Mollendo, and Callao, and of the progressive interior cities of Ancachs, Junin, Cuzco, and Puno.

The irrigation of larger tracts of land on the coast is strongly recommended, commencing in the great agricultural districts of Tumbes, Piura, and Santa, so rich in natural resources and so suitable and favorably located for the settlement of foreign immigrants.

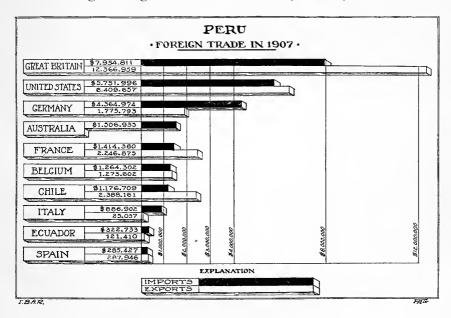
The President pledges his support to the amendment of the electoral law, and states that it will be his earnest endeavor to work on all occasions for the interest, prosperity, and welfare of all the people of the nation.

DISTRIBUTION OF FOREIGN TRADE IN 1907.

Supplementary to the information contained in the annual message of the President of Peru covering trade and industries of the Republic in 1907, the report of the United States consul-general at Callao shows the main distribution of the country's foreign trade for the year, according to origin and destination as follows:

Country.	Imports.	Exports.
Great Britain United States Germany Australia France Belgium Chile Italy Ecuador Spain	5,751,996 4,364,974 1,506,935 1,414,380 1,264,302 1,176,709 886,902	1,775,798 2,246,875 1,273,602 2,388,161

As compared with the preceding year, imports from the United States increased over \$200,000; Germany, over \$160,000, and Great Britain, over \$1,118,000. A loss is recorded of nearly \$200,000 as regards Ecuador, France, and some other countries, whereas Belgium showed the greatest gain after Great Britain, or \$340,000.



Great Britain remains the greatest purchaser of Peruvian products, increasing receipts during the year to the amount of \$450,000. The United States ranks next, increasing her purchases by over \$4,000,000, and taking the status formerly occupied by Chile. This great gain is largely attributable to mineral exports, the figures for 1907 being \$5,203,613, against \$665,438 in the preceding year. During the first half of 1908 this class of exports to the United States was valued at \$2,787,854. Exports to Chile decreased by \$2,446,000; a slight decline being also noted as regards France, while Belgium increased her purchases by \$679,000.

Reporting on the status of the Peruvian wheat market, Mr. Taylor states that about 50,000 tons are consumed in the country each year,

of which Chile supplies the bulk, though a considerable amount is furnished by Australia. The latter is highly esteemed, though for the best flour, the blend of different countries is preferred. The Tacoma shipments cover all that arrives from the United States, and at present the latter country does not compete profitably with other markets of supply.

NATIONAL SALT COMPANY.

The net profits of the National Salt Company, of Lima, which has a monopoly of the salt industry of Peru and operates under the control and supervision of the Peruvian Government, amounted to £25,146 from July to September, inclusive, 1908. The capital of the company is £100,000.

ELECTRIC COMPANIES OF LIMA.

The electric companies of Lima are the Urban Tramway, the Lima-Chorillos Line, the Lima-Callao Tramway, and the Santa Rosa Electric Company. These companies recently merged into a corporation known as "Las Empresas Eléctricas Asociadas" (United Electric Companies), with a capital of 15,000,000 soles (\$7,500,000), the individual holdings of the companies being as follows:

	Soies.
Santa Rosa Electric Company	6, 150, 000
Urban Tramway Company of Lima	5, 550, 000
Electric Tramway of Lima and Callao	2, 100, 000
Electric Tramway of Lima and Chorillos	1, 200, 000
	15, 000, 000

In addition to the total capital of these merged companies, the new company has made several issues of bonds aggregating a nominal value of 6,000,000 soles (\$3,000,000), thus making the total capital of the United Electric Companies 21,000,000 soles (\$10,500,000). The latter company is negotiating a loan of 10,000,000 soles (\$5,000,000) for the purpose of taking up the bond issue of 6,000,000 soles (\$3,000,000), completing the installation, extending the tracks, and bettering the service of the tramways.

The latest statement of the earnings of the company show that it is paying 6 per cent on the capital invested.

The rivers Rimac and Santa Eulalia furnish abundant water power. One of the canals in use is 3 meters deep and 8 meters wide, with a fall of 46 meters from the intake to the outlet of the delivery tubes. The water is conveyed to the turbines by means of large steel tubes and in sufficient quantity to develop all the power that is needed for present use and for the future development and expansion of the company.



GATHERING COCOANUTS.

The cocoanut tree thrives on the sandy soil bordering on the seacoast. It is one of the first growths on new tropical islands. The trees frequently reach a height of 100 feet, and often commence to bear when less than 10 years old, continuing productive for more than half a century, and yielding about 100 nuts annually. The fruit is a staple food either ripe or unripe, raw or cooked. The nuts yield an oil used largely for making soap and candles. The leaves are used for thatching and for making baskets, mats, etc. The lower portion of the trunk is commercially important as "porcupine wood," used in cabinet work.



A BREAD-FRUIT TREE.

This highly useful tree is native of the South Sea Islands. In 1688 the attention of the English Government was directed to it by voyagers who recommended its transportation to the West Indian colonies. Cargoes of trees were conveyed to the New World in 1787 and 1791, since which time it has spread to all parts of tropical America. In the edible stage the fruit resembles fresh bread, being white and mealy, but slightly tart. The inner bark is woven into eloth, and a gummy exudation from the bark, boiled with cocoanut oil, is used for calking canoes, pails, etc.

In the tramways of Lima the trolley system is employed. The tram cars are capable of seating 40 persons and are well ventilated and lighted. On the whole, the street railway system of the capital of Peru and vicinity is excellent and is playing an important part in the growth and development of Lima.

ESTABLISHMENT OF AGRICULTURAL SCHOOLS.

The Senate of the Congress of Peru has passed a bill establishing practical agricultural schools and schools relating to subjects closely allied to agriculture in each of the Departments of the Republic. Should this bill become a law, the President will include in the next budget submitted to the Congress the amounts necessary for the establishment and support of the agricultural schools referred to. The bill has the support of the Peruvian people, who are convinced that great benefits will result to the country from the establishment and proper maintenance of such institutions.



EXPORTS DURING FIRST HALF OF 1908.

The exports of the Republic of Salvador for the first six months of 1908 consisted of merchandise weighing 56,057,334 pounds, valued at 12,282,458.25 colones (\$4,912,000). Three countries received more than 1,000,000 colones of these exports, namely, France, 3,374,705.56 colones; United States, 3,307,130.09; and Germany, 2,398,391.16; while Italy received Salvadorean products aggregating a value of 912,023.03 colones; Great Britain,754,464.86 colones; and Spain 459,071.45 colones.

The principal articles of export, expressed in *colones*, were as follows: Coffee, 9,719,663.32; gold and silver ores, 1,565,700; sugar, 334,388.80; indigo, 168,535.40; auriferous silver, 137,200; balsam, 129,175; leaf tobacco, 57,933.65; ox hides, 32,327.60; and rice, 26,522.22. The total export duties collected were 705,707 *colones* (\$282,000), 683,127 *colones* of which came from the export duties on coffee.

RECEIPTS AND EXPENDITURES, FIRST HALF 1908.

The revenues of the Republic of Salvador, collected during the first half of 1908, were 5,672,647.51 *colones* (\$2,269,00), made up of the following amounts expressed in silver *colones*: Imports, 2,815,947.53; exports, 705,719.21; tax on liquors, 1,275,252.81; from sealed paper

and stamps, 135,673.73; sundry taxes, 150,145.30; services, 372,989.42; and sundry receipts and transfers, 216,919.51. The revenues on hand at the beginning of the year were 420,843.71 colones (\$168,300), making the total available funds of the Government of Salvador for the first six months of 1908 6,093,491 colones (\$2,437,300). The expenditures during the period referred to aggregated 5,640,658.28 colones (\$2,256,000), or an excess of receipts over expenditures of 452,832.94 colones (\$181,000).

COFFEE CROP OF THE REPUBLIC.

Coffee exported from the Republic of Salvador during 1907 is reported by the British Consul at the capital of the country to have aggregated 369,102 sacks, or something over 28,000 tons, valued at about \$4,250,000. While the crop was smaller than usual, the better prices obtained compensated for the shortage.

The 1908 production is estimated at 35,000 tons.

ECONOMIC CONDITIONS.

In response to inquiries addressed to the Salvador Government by the Vice-Consul-General of the United States in San Salvador, a general statement of economic conditions of the Republic has been issued and publication made in the "Diario Oficial," containing the following informatory data:

Salvador is essentially an agricultural country, the principal crop being coffee, of which 37,500 tons represent the annual output, valued at about 13,000,000 colones (about \$5,000.000). Attention is also given to the growing of sugar cane, maize, wheat, and other cereals. Manufacturing industries are of less importance, though textiles of cotton and silk are produced, also straw hats, fine cigars, artificial flowers, embroideries, and confectionery. Development is being made in cabinet work, shoemaking, ironmongery, and pottery, while the curing of hides is facilitated by the abundance of native woods adapted to the purpose. Mining is profitably carried on in many sections of the country, especially in the Departments of Santa Ana, Chalatenango, Cabanas, Morazan, San Miguel, and La Union. Valuable veins of iron, copper, lead, gold, silver, and manganese have been located and exploited.

Of the coffee exported, France takes the greater proportion, or something over 37 per cent, followed by the United States, with 18 per cent; Germany, 15 per cent; and Italy, Great Britain, Austria, and Spain in diminishing ratios. Nearly \$1,000,000 represents the value of this article received by the United States in 1906. Mineral exports in the same year were over \$1,250,000 in value, three-fourths of which was gold in various forms.

As receivers of Salvadorean exports in general, Great Britain ranks first, with 34 per cent, followed by the United States, with 31 per cent, the next ranking country being Germany, with 9 per cent. Imports of materials for use in the textile and other manufacturing

Imports of materials for use in the textile and other manufacturing industries of the Republic come mainly from Great Britain, the United States, France, and Germany.

Reporting on industrial conditions, it is stated that the average wages paid to laborers net from 50 to 75 centavos per day, and as holidays are of frequent occurrence it would seem that scant return is obtained from industrial effort. At the same time the simple habits of the natives necessitate an outlay of only about half this daily wage for the supply of sufficient food—mainly maize and beans—for a family of six persons. The usual clothing is of cotton, and the furnishings of the dwellings are of the simplest nature.

The cost of producing a quintal (101 pounds) of coffee is about 8 pesos (a little over \$3); the same quantity of rice costs 50 centavos (about 20 cents); sugar, 4 pesos (\$1.50) per quintal.

The value of exports sent to the United States in 1906 is given as 5,725,615 pesos, or nearly \$3,000,000, coffee and gold forming the leading items and valued at about \$1,000,000 each.

MINERAL DISTRICTS OF THE REPUBLIC.

The cordilleras of the Republic of Salvador are rich in mineral products, and especially is this true of the chains of mountains which, rising in gentle undulations from the 200 miles of deeply indented coast line on the Pacific, reach their greatest elevations in the northern and eastern Provinces bordering on the Republic of Guatemala and Honduras. Generally speaking, the veins follow the course of the cordillera, and run from east to west in a direction parallel to the mountain range. Tremendous upheavals of nature have in some localities broken and twisted the veins into positions of great irregularity, interrupting and diverting their natural courses in these particular zones. The eastern part of the Republic contains the principal deposits of gold, silver, copper, and lead, the western is noted for its iron, while the valley of the Lempa River, in the middle-central zone, is underlaid at different places with rich deposits of coal.

Salvador may be roughly divided into three great mineral belts, namely, the western, the central, and the eastern. The first is composed of the departments of Santa Ana and Chalentenango, the second of Cabañas and Morazan, and the third of San Miguel and La Union. Examining these districts in the order named, it is found that the region of Metapan, Department of Santa Ana, has earned the just title of "La Viscaya Salvadoreña" (the Pittsburg of Salvador), because of its numerous veins of iron, copper, lead, and gold

and silver ores, which seem to exist there in practicably inexhaustible quantities. This is especially true of the vast deposits of an excellent grade of iron and copper ores. The only iron smelters in operation in this district at present are the San Jose and the San Miguel establishments, both of which use the antiquated Catalonian method.

There is a copper smelter at El Brujo. The copper ores of this zone contain considerable quantities of gold and silver. The wagon roads in this region are good, and easy communication is had between Metapan and Santa Ana, distant from each other about 56 kilometers. The projected union of the Central Railway of Salvador with the Northern Guatemalan, or the construction of a branch line into this district, would greatly stimulate the mining industry in the entire western zone of the Republic. This district sooner or later is destined to become a great mineral mart and an important center of mining activity and development in the Republic.

The mining industry in the departments of Chalatenango and Cabañas have been as yet only partially developed. The richest mine in operation in this district belongs to Mr. Gustavo Lozano. A good road is being constructed, which will facilitate the extraction of the mineral products of these departments, enabling them to be freighted over the road that leads to the city of San Salvador, and from thence

by rail to the port of Acajutla.

The principal mines in the Department of Cabañas are the copper mines bearing the names of La Electricida, Fichan, Los Amates, Santa Margarita, Santa Angela, La Quebrada, San Francisco, and El Zanjo. All of these mines, together with a manganese mine, belong to Mr. Gustavo Lozano. In the San Isidro district of the same department are the San Enrique, Cola de Toro, Compañero, Cerro de Avila, and Pepita de Oro mines. The latter is celebrated for the richness of its gold ores, which assay as high as \$15 per ton. The vein is a porous quartz, the ore having a reddish color.

To the south of Sesuntepeque are the El Porvenir mines, which produce a good grade of silver and gold ores. The mineral zones of San Fernando, Obrajito, El Dorado, and San Juan, are also well and

favorably known.

In the department of Morazan the English Gold and Silver Mining Company, of London, own the Divisadero mine, and control the exploitation of La Protectora, El Bosque, Carolina, El Gavilan, and Loma Larga mines. These mines, some of which are being actively exploited, produce an abundance of gold and silver ores. Other prominent mines of this district are El Nance, Orito, Los Santos, San Francisco, El Pique de la Señora, El Socorro, La Perla, etc.

In the districts of San Carlos and Yamabal are to be found the Margarita gold and silver mine, the Montecristo and Carrizal gold

mines, the Gigante gold and silver mine, as well as the New Virginia and other mines.

One of the richest mines of Salvador is the San Sebastian, in the department of La Union. This mine is owned by an English company, and the pyrites of gold ore produced by it are treated by the wet method. The ores of the Tabanco mine, which belongs to a French company, are rich in gold. The San Bartolo gold and silver mine is the property of an American syndicate, as is also the Copetillos, and Eva, and other gold and silver mines of this zone.

The principal mines in the department of San Miguel are La Poza, El Consuelo, Guadalupe, Hormiguero, Lariveca, Gallardo, Esperanza, Potosi, and Porvenir, the ores from all of which show high assays in gold.



FOREIGN COMMERCE, NINE MONTHS OF 1908.

Statistics of the foreign commerce of the United States for the nine months of 1908 ending with September show total export values amounting to \$1,230,867,349, as compared with \$1,331,588,696 in the corresponding period of 1907. For imports \$798,520,162 and \$1,108,072,299 are reported in the two periods, respectively. Both branches of trade are thus shown to have declined, and that the decrease was practically uniform as regards the various participating countries is shown by the following distribution of imports and exports in the two years under comparison:

	Imports.		Exp	orts.
	1907.	1908.	1907.	1908.
Europe North America South America Asia Oceania Africa	\$567,057,910 218,847,603 115,124,189 161,418,737 26,229,595 19,394,265	\$385, 090, 270 177, 173, 689 89, 919, 346 115, 251, 448 18, 590, 023 12, 495, 386	\$875, 554, 560 276, 480, 826 63, 004, 160 72, 355, 857 32, 564, 315 11, 628, 978	\$839, 683, 105 218, 147, 983 57, 356, 124 69, 134, 348 33, 059, 206 13, 486, 583

TRADE WITH LATIN AMERICA.

On the trade lists for the nine months Central America is credited with receipt of exports worth \$18,841,895, against \$21,888,898 in the same months of 1907, while imports from that section are valued at

\$9,258,165 and \$13,875,383 in the two periods, respectively. These values were distributed as follows:

	Imports.		Exports.	
	1907.	1908.	1907.	1908.
Costa Rica Guatemala Honduras Nicaragua Panama Salvador	\$4,615,968 4,054,041 1,813,213 904,081 1,330,910 1,157,170	\$3,408,537 1,684,526 1,436,403 743,709 997,207 987,783	\$1,922,111 1,833,778 1,347,337 1,302,982 14,250,021 1,232,669	\$1,664,581 1,290,458 1,168,234 953,581 12,723,411 1,041,630

From Mexico imports for the nine months of 1908 were represented by \$30,925,587, as compared with \$46,107,219 in 1907, while exports thither were valued at \$34,324,280 and \$52,194,613 in the two periods in reference.

In the total valuation of imports from the West Indies, recorded as \$85,320,546, Cuba figured for \$70,645,969, Haiti for \$336,998, and the Dominican Republic for \$5,059,657, the last-named country showing a gain of nearly \$2,000,000, while receipts from Cuba declined by nearly \$13,000,000 and from Haiti by nearly \$700,000.

Exports to the West Indies show a total of \$45,835,882, against \$54,599,733 in the first nine months of 1907; Cuba receiving \$30,652,956, against \$39,627,673; Haiti, \$2,340,476, against \$2,119,357, and the Dominican Republic, \$1,989,663, as compared with \$1,982,558.

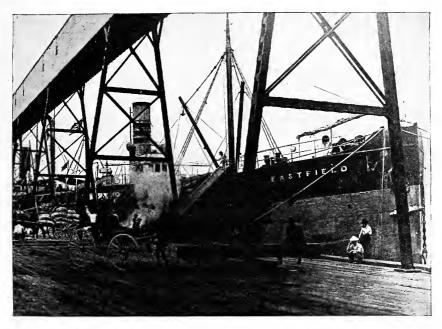
The distribution of South American trade for the two periods was as follows:

	Impo	orts.	Expo	ports.	
	1907.	1908.	1907.	1908.	
Argentine Republic	65, 375, 746	\$9,017,842	\$22,537,597	\$25, 120, 643	
Bolivia		385	1,204,526	562, 268	
Brazil		53,217,596	15,529,562	12, 527, 316	
Chile.	4,842,221	8, 977, 290	8, 197, 117	3, 898, 34	
Colombia		4, 997, 349	2, 159, 564	2, 679, 72	
Ecuador		1, 559, 491	1, 313, 867	1, 365, 65	
Paraguay		15, 141	119, 795	47, 27	
Peru	5, 288, 910	4,322,942	4, 987, 875	4, 668, 44	
Uruguay		1,560,337	2, 959, 854	2, 528, 75	
Venezuela		5,212,648	2, 000, 014	1, 785, 69	

NEW STEAMSHIP SERVICE BETWEEN GALVESTON AND LATIN AMERICA.

The secretary of the Chamber of Commerce of Galveston has informed the International Bureau of the American Republics of the inauguration of a new steamship service between the port of Galveston and Central and South American points.

With the sailing of the *Eastfield* in August, freighted with cargo for Jamaica, Panama, and Ecuador, a development in the interchange of products between the territory tributary to Galveston and the various Republics of the west coast of South America is anticipated. The territory in question embraces the States of Texas, Arkansas,



STEAMSHIP EASTFIELD LOADING FLOUR FOR PANAMA AND ECUADOR.

In August, 1908, the steamship Eastfield sailed from Galveston, Texas, with a cargo of flour for Panama and Ecuador, the consignment for the latter to be trans-shipped from Colon to Panama City, whence it will be carried by boat to its destination. This initial sailing is, in itself, illustrative of future business possibilities. Negotiations are pending between citizens of Galveston and Ecuador, Colombia, Peru, and Chile, for the establishment of direct trade relations, and an immense traffic in foodstuffs, via this new service, is anticipated.

Oklahoma, Kansas, Nebraska, Missouri, Colorado, and adjacent districts.

From Galveston to Panama the distance is but 1,480 miles, and from the geographical center of the United States, in Kansas, to the port of Galveston the area to be traversed is but 770 miles.



REGULATION OF THE PRACTICE OF PHARMACY.

As drafted by the National Council of Hygiene and forwarded to the National Congress by the Uruguayan Executive, in September, 1908, the bill regulating the practice of pharmacy in the Republic of Uruguay makes the following provisions:

No person without a diploma as pharmacist may open a pharmacy. With the exception of those attached to hospitals, etc., for which separate provisions are established, all pharmacies must be the exclu-

sive property of the pharmacist.

Pharmacies at present existing whose proprietors have no diplomas, but which are managed by a pharmacist, may continue to operate under the following limitations: The right ceases on the death of the present proprietors; the pharmacy may not be transferred by sale, gift, or other operation except to a pharmacist with diploma, and it may only move its premises in the town where it is at present established.

In case of the death of the proprietor of a pharmacy, the widow or heirs may retain the proprietorship and keep the establishment

open for two years under the direction of a pharmacist.

In regard to patent medicines, it is provided that two years after the promulgation of the Act, only such specifics whose sale is authorized by the National Council of Hygiene may be imported or sold in the country. Authorization for the sale of such medicines shall be based on the report made by the laboratory of the council and a fee of from \$10 to \$20 charged.

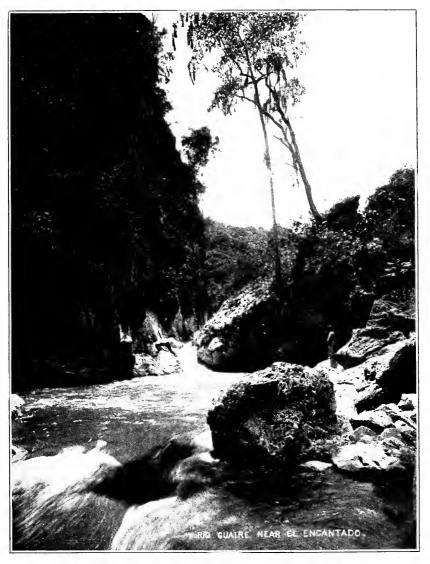
Penalties and fines ranging from \$50 to \$500 are fixed for infringements of the law.

Publication has been made of the law in the official journal of the country.

PROJECTED RAILWAY CONSTRUCTION.

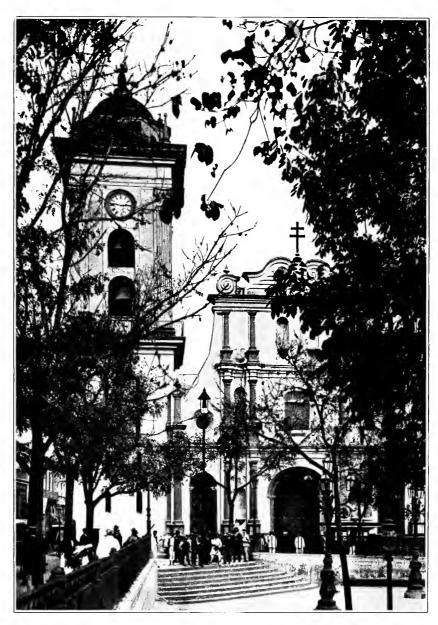
United States Consul F. W. Goding sends from Montevideo the following information of new railroad lines planned in Uruguay:

The Uruguay East Coast Railway Company (Limited) was registered in London on July 14, with capital £125,000 (\$608,312.50). The objects are to acquire from the Government of Uruguay a concession for working an existing line of railway from Olmos Junction to La Sierra, and for constructing, equipping, and working extensions thereof from La Sierra to Maldonado, Rocha, and elsewhere, and to adopt an agreement with the Uruguay Great Eastern Railway Company (Limited). The directors shall create a series of 5 per cent



EL ENCANTADO RAPIDS, RIVER GUAIRE, VENEZUELA.

The power of these rapids has lately been utilized by the Caracas Electric Company for the generation of electricity. With a fall of 112 feet they develop 1,040 horsepower. A second plant has also been erected at Los Naranjos, 2 miles above El Encantado. Combined, the plants furnish 2,700 horsepower, nearly all of which is used for lighting the capital by night and serving small industries by day.



THE CATHEDRAL, CARACAS, VENEZUELA.

The construction of this edifice was begun in 1641. Though lacking in distinctive architectural features, it is noted for its great size, and because for many years the remains of Simon Bolivar rested here. It has a wonderful set of chimes, which ring out the quarter hours, and it is decorated with fine paintings by celebrated masters, notably an unfinished "Last Supper" by Arturo Michalini, Venezuela's most famous artist. Like most South American cathedrals, this one faces the principal plaza of the capital.

first charge debentures, not exceeding, in the first instance, £315,000 (\$1,532,947) in nominal value, which limit may be increased by £5,000 (\$24,332) for every kilometer (0.62 mile) of railway hereafter constructed in excess of 63 kilometers (39.15 miles), and shall also create £184,980 (\$900,205) income debenture stock, with interest at 4 per cent, payable during the first three years from issue only out of the net revenue of the company.

Application for a concession has been made for the construction of a new railway line to extend from Tres Arboles station, on the Midland Railway, to Piedra Sola. The line will be standard gauge, the length about 50 kilometers (31.07 miles). The usual conditions of the railway act, including a $3\frac{1}{2}$ per cent guaranty, will apply, and it is understood that the line will be completed within three years.



FOREIGN COMMERCE IN 1907.

A general report on the foreign commerce of Venezuela during the calendar year 1907, as published in the "Gaceta Oficial" for October 6, 1908, places the total value at 135,141,035 bolivars (\$27,028,200), divided into exports, 81,282,836 bolivars (\$16,256,560), and imports, 53,858,199 bolivars (\$10,771,630). As compared with the preceding twelve months, there was a slight loss in exports and a gain in imports, where comparison with the figures for the fiscal year 1906–7 shows a gain in exports of \$52,588 and in imports of \$435,813.

The principal articles shipped abroad and their valuations were as follows: Coffee, \$7,232,900; cacao, \$3,680,700; hides, \$1,210,100; rubber, \$1,396,200; and cattle, \$822,500.

Coffee exports aggregated 97,077,878 pounds, or nearly 2,000,000 pounds less than those of the fiscal year 1906–7, the loss in value being over \$350,000; cacao was sent abroad to the extent of 29,639,995 pounds, a gain of 3,300,000 pounds and of over \$800,000 in value; rubber to the amount of 3,754,764 pounds showed a gain of over 300,000 pounds and of \$200,000.

The principal countries receiving Venezuelan products during the year were:

United States	\$6, 100, 000
France	3, 500, 000
Great Britain	2, 100, 000
Netherlands	1,000,000
Germany	1,000,000
Cuba	
Spain	600,000

AQUEDUCT AND MUNICIPAL BUILDING AT BARQUISIMETO.

The President of the Republic of Venezuela, under date of September 30, 1908, issued decrees setting aside 40,000 bolivars (\$8,000) for the completion of the Barquisimeto Aqueduct, and an equal amount to be used in erecting a municipal building and barracks at the same place.

TARIFF MODIFICATIONS.

On and after October 1, 1908, the articles mentioned below will pay duty as follows:

Glass and crystals in unsilvered sheets, white or colored, 25 centimes (\$0.05) per kilogram, the surcharge of 25 per cent formerly levied having been repealed.

Raw, rendered, and pressed tallow, and ordinary fats of all kinds for making soap, will pay duty according to class 2, or at the rate of 10 *centimes* (\$0.02) per kilogram.

Stearic and oleic acids, pure unwrought stearin, and stearin mixed with paraffin, known as trade stearin, will pay duty according to class 4, or at the rate of 75 centimes (\$0.14475) per kilogram.



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